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Cooling Problems Solved

AmeriCool Offers Backup, Supplemental & Primary Cooling Options Available 24/7

AmeriCool has one goal. "We want to be the leader in quality and service in the portable air conditioning industry, and we want to provide solutions for the data center that are simple and easy to use," says Mike Paulson, AmeriCool president. To that end, the company has the experience, product line, warranty, and customer service in place to make that goal a reality.

A Cool History

AmeriCool launched in December 2011, creating a North American aftermarket brand for Korea-based Weltem, an OEM manufacturer of air conditioning products and data center solutions for more than 20 years. AmeriCool offers a full line of air-cooled self-contained portable air conditioners ranging from 1 to 5 tons (13,200 BTU/hour to 61,000 BTU/hour) that IT can easily move to an exact area needing cooling.

"For the data center, if you have a hot spot, you can take our unit and put it directly to that area," Paulson says. "If you have multiple data centers in your building, you can take the unit out of one and put it in another. The portability is obviously one of the keys behind our product."

You can rent or buy AmeriCool's portable air conditioners via a 24/7 national distributor network. So if your building air conditioning or ceiling-mounted cooling unit goes down, you can rent an AmeriCool unit as backup until the unit is fixed. AmeriCool's units, however, are also viable primary cooling options. For example, if you're adding servers to a server room that will bump the heat load up, say, 3 to 5 tons, you could buy and install a new cooling unit to handle the added load, Paulson says, or you could "take our unit and basically roll it in, plug it in, and have 3 to 5 tons of cooling right there." In some situations, Paulson says, adding an AmeriCool unit is one-third to one-fifth the cost of installing a rooftop or ceiling-mount unit.

Beyond primary and backup functionality, enterprises can use AmeriCool's units for supplemental cooling. "Many people look at this as 'My unit went down, I'm going to use it as my backup,' " Paulson says. "But especially in smaller server rooms or closets that really don't have sufficient cooling built-in, they've taken a unit, turned it on, and it runs 24/7 at whatever temperature they want to set the room at." Another example, Paulson says, is using the unit for after-hours cooling. Rather than running the building air conditioner to cool an entire floor, a company could use an AmeriCool unit to cool only a server room, "which can really save you a lot of money," Paulson says.

Automatic & Easy

Paulson says AmeriCool units are "designed to run 24/7 and require little to no maintenance. You clean the filters and basically run a condensate line somewhere or you have a condensate tank to empty, and that's it. That's the only maintenance required, if you can even call that maintenance." You can choose to outfit the unit to collect water in a bottom-located tank that's emptied periodically or use a pump and condensate line instead to drain water. In either case, the unit provides built-in condensate overflow protection.

In addition to being suitable for companies large and small, extremely portable, easy to install, and able to run 24/7, AmeriCool's portable air conditioning units are designed to provide IT peace of mind via the auto-restart function each unit includes. If the data center experiences a power outage, the unit will automatically turn back on. "The key thing the IT manager wants to know is if the electricity goes out and then comes back on, is this unit going to come back on on its own? And yes, ours will," Paulson says.

Each unit can cool down to 64 degrees if required and includes an off timer, self-diagnostic system, and metal construction with hard-rubber casters. AmeriCool is the only company in the industry to provide Spot Cooling and Room Cooling thermostat operating modes, Paulson says.

Service & Coverage

Next year, the Long Beach, Calif.,-based AmeriCool expects to expand its product line by adding water-cooled units. The company also plans to introduce features that will give IT more flexibility in how they can implement units in their respective spaces. All units ship with what Paulson describes as one of the leading warranties in the portable cooling industry, covering both parts and labor.

"We stand behind our product because we feel we have a high-quality product. We want our customer service to match that high-quality product," Paulson says. "We have a hands-on approach to our customers' applications and their needs. We have engineers on staff that can go through any type of applications that the IT manager has and any questions he might have with his cooling needs. We know our products are high quality, and we strive to provide service that matches that quality." P

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University Of Michigan Opens New Modular Data Center

The University of Michigan unveiled its highly anticipated new MDC (Modular Data Center), the first of its kind in the U.S., in June. The MDC has numerous environmentally friendly features. For example, said Andy Caird, U-M director of HPC (high performance computing), in a U-M press release, "Rather than running what amounts to a very expensive air conditioner all year long, the MDC allows us to essentially open the windows during the colder months, and limit air conditioning to the few months in the summer when we really need it." The $6 million MDC has a one-megawatt capacity and will run at roughly half the cost of a traditional data center. The MDC will eventually house Flux, U-M's HPC research cluster.

Dell Buying Quest Software For IT Solutions

Round Rock, Texas,-based Dell recently announced its intention to acquire Aliso Viejo, Calif.,-based Quest Software for $28 per share (about $2.36 billion total) following an intense bidding war. IT management solutions are the main focus for 15-year-old Quest, which employs roughly 3,900 and claims 100,000 customers worldwide. The buyout will enhance Dell's new Software Group, particularly in the areas of identity and access management, performance monitoring, database management, and Windows server management. According to Dell, its software endeavors will amount to a $1.2 billion business with the addition of Quest.

Big Growth Expected For Carrier Wi-Fi Equipment

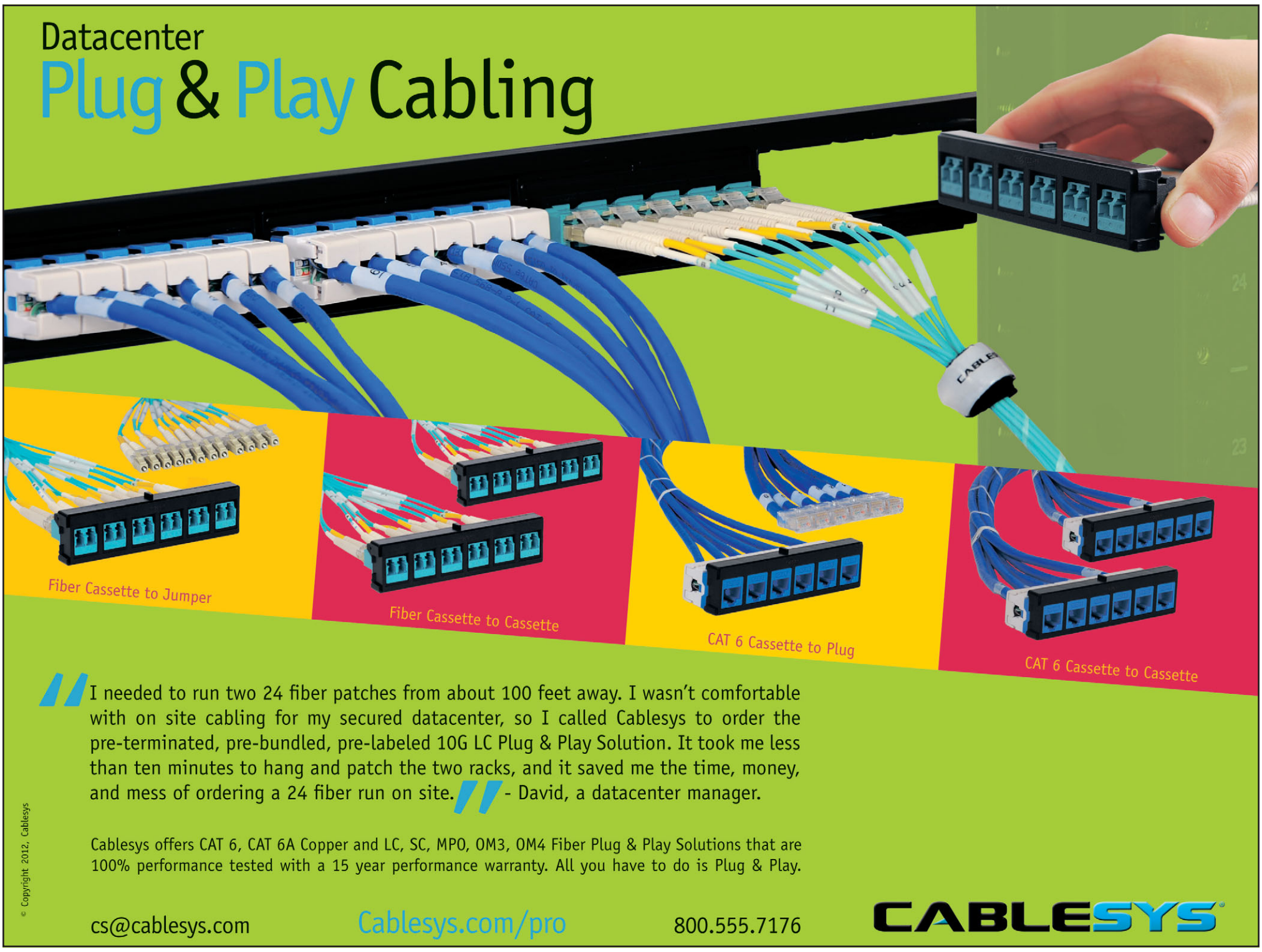
ABI Research defines carrier Wi-Fi as "Wi-Fi that is provided as a service to mobile carrier customers, owned and operated directly or indirectly by the carrier, e.g., by a third-party hotspot provider." This is generally done as a way to offload data usage from cellular networks to local Wi-Fi networks. In a new report, ABI forecasts that the market for carrier Wi-Fi equipment will grow to eight times its present size to reach $2.2 billion by 2017. With standardization initiatives such as Hotspot 2.0 and the proliferation of Wi-Fi in computing devices of all types and sizes, "carrier controlled Wi-Fi is expected to see wide-scale adoption, especially in markets like North America, Japan, and South Korea," explained Nick Marshall, principal analyst, mobile networks, for ABI, in a statement.

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 15 major companies in the technology market.

Company	Symbol	Year Ago	June 21 $	July 5 $	% change from previous issue
AMD	AMD	$7.15	$5.72	$5.88	▲ 2.8%
Apple	AAPL	$357.20	$577.67	$609.94	▲ 5.59%
CA Technologies	CA	$23.42	$26.01	$27	▲ 3.81%
Cisco Systems	CSCO	$15.90	$16.92	$16.94	▲ 0.12%
Dell	DELL	$17.15	$12	$12.63	▲ 5.25%
Facebook	FB	n/a	$31.84	$31.47	▼ 1.16%
Google	GOOG	$546.60	$577.51	$595.92	▲ 3.19%
HP	HPQ	$36.45	$21.16	$20.28	▼ 4.16%
IBM	IBM	$176.48	$193.39	$195.29	▲ 0.98%
Intel	INTC	$23.23	$26.71	$26.55	▼ 0.6%
LinkedIn	LNKD	$93.98	$102.19	$108.24	▲ 5.92%
Microsoft	MSFT	$26.77	$30.14	$30.70	▲ 1.86%
Oracle	ORCL	$34.09	$27.81	$29.72	▲ 6.87%
Red Hat Software	RHT	$46.67	$53	$56.67	▲ 6.92%
Symantec	SYMC	$19.86	$14.44	$14.72	▲ 1.94%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.



FEATURED PRODUCT

Products Prepared For Real-World Use

Server Technology & PDUs Direct Know The Importance Of Product Testing

Most companies perform some form of testing on their products to ensure that they are in good working condition before being shipped to customers, but Server Technology, experts at producing the highest standard of quality PDUs, goes above and beyond basic testing with its 100% Product Performance Testing. The process includes putting each product through a series of tests designed to push it to its limits, which results in high-quality products with low failure rates.

The reason Server Technology decided to perform these tests on every product for 27 years is much simpler than you may think. "The worst thing for a customer is to open a box, plug a product in, and it doesn't work," says Jim Scherr, director of sales and operations at PDUs Direct (www.pdusdirect.com), the master distributor of Server Technology PDUs. "The overarching reason for doing the power testing is simple: to make sure that any product that leaves our building functions as per designed and meets all the criteria of the customer. We're committed to always providing the quality and value that our customers expect."

The first and foremost benefit of Server Technology's 100% Product Performance Testing is that customers can have peace of mind knowing that the products powering their mission-critical devices work as designed and have less of a chance to fail, according to Scherr. Server Technology's major goal is to help keep their customers' physical infrastructure up and running so they can be as productive as possible.

Testing From Beginning To End

With 100% Product Performance Testing, it isn't just a matter of testing a product after it's completely built. In fact, these products are tested throughout the manufacturing process to make sure any possibly defects or other issues are caught early on to prevent a potential domino effect later down the line. And if a product fails at any step along the way, changes are made and the testing process at that level starts all over again. "It's good for us to know early on if there's a problem because we can fix it here at our manufacturing facility, which is so much better and quicker than trying to fix issues or problems in the field," Scherr says.

The variety of tests performed on the products run the gamut from thermal, shock, and vibration testing to compliance with ATE (Automated Test Equipment) tests, as well. It all leads to the final tests, which are designed to test the product in real-world applications and make sure they are ready for the customer once and for all. All tests are performed in a state-of-the-art Power Lab.

"All products are tested at all stages, starting from when the product is in its infancy to when it has become finalized," Scherr says. "Just before it goes out the door after the final modification, we test it once again. We don't just test it by plugging it in and making sure the lights come on; we plug it in and we load every receptacle. We just want to make sure that, functionally, the product fully works under the conditions it will see in the future."

A Partnership Between Manufacturer & Customer

PDUs Direct sells a wide variety of Server Technology products, including basic, switched, and metered Rack PDUs, and all of them go through the 100% Product Performance Testing process. It's a combination of well-built, easy-to-use products and a degree of testing that isn't often seen in the IT industry. Current customers notice this because, according to Scherr, they "really appreciate the due diligence being done prior to them getting the products."

And Server Technology, along with PDUs Direct, sees its relationship with customers as a mutual partnership, which is why 100% Product Performance Testing was put into practice in the first place. These companies strive to provide the best products available with the highest amount of testing and lowest failure rates so that their customers can focus on running their businesses instead of fixing infrastructure issues.

"The quality, reliability, and performance of our products are the most important benefits—to our customers and to us," Scherr says. "It's what we've built the company on and what we stand for every day." P

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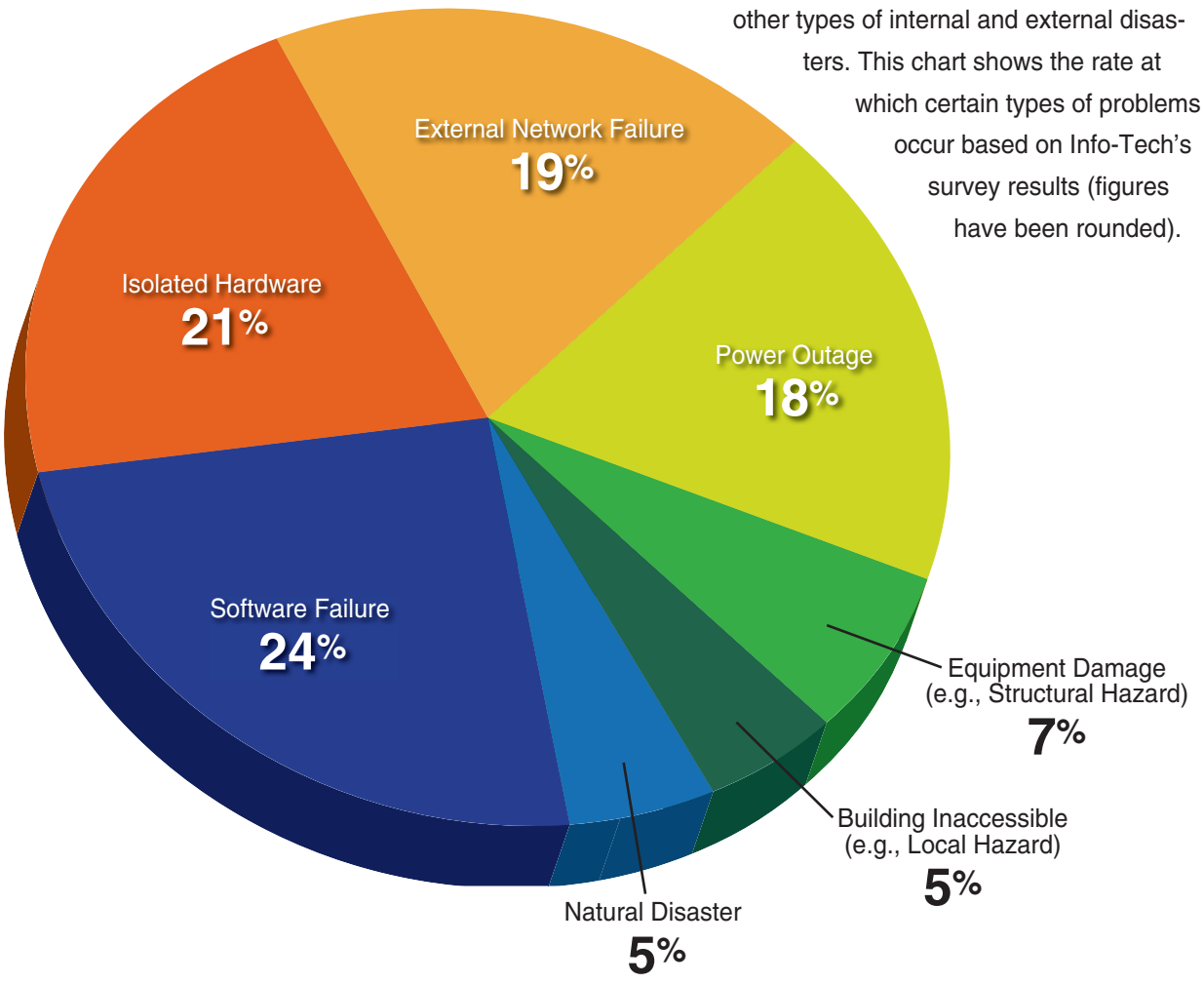
Disasters By The Numbers

It's vital, of course, that DRPs (disaster recovery plans) include preparations for all types of possible disasters. Interestingly, however, an Info-Tech Research survey found that hardware and software issues were more likely to cause unexpected downtime than other types of internal and external disasters. This chart shows the rate at which certain types of problems occur based on Info-Tech's survey results (figures have been rounded).



How We Use Our Smartphones

According to a recent study released by the comScore MobiLens service, Google's Android retains the top spot among smartphone platforms, with 50.9% of the market compared to 31.9% for runner-up Apple iOS. Both platforms gained at the expense of the declining Research In Motion BlackBerry and Nokia Symbian platforms. The study also shed light on how we use our smartphones, as shown in these figures.

SanDisk Buys Enterprise Software Company Schooner

SanDisk, the Milpitas, Calif.,-based manufacturer of storage products for enterprise, consumer, and OEM markets, recently announced its acquisition of Sunnyvale, Calif.,-based Schooner Information Technology. Best known for its SchoonerSQL, a database program designed for companies of any size requiring 99.999% uptime, Schooner serves customers in telecommunications, financial, and a variety of other industries. According to its press release, SanDisk will incorporate Schooner into its "growing portfolio of enterprise solid-state disk and flash-optimized software offerings that enable customers to accelerate the performance of data-intensive applications and reduce overall cost of ownership." Terms of the acquisition were not disclosed.

Red Hat To Acquire FuseSource

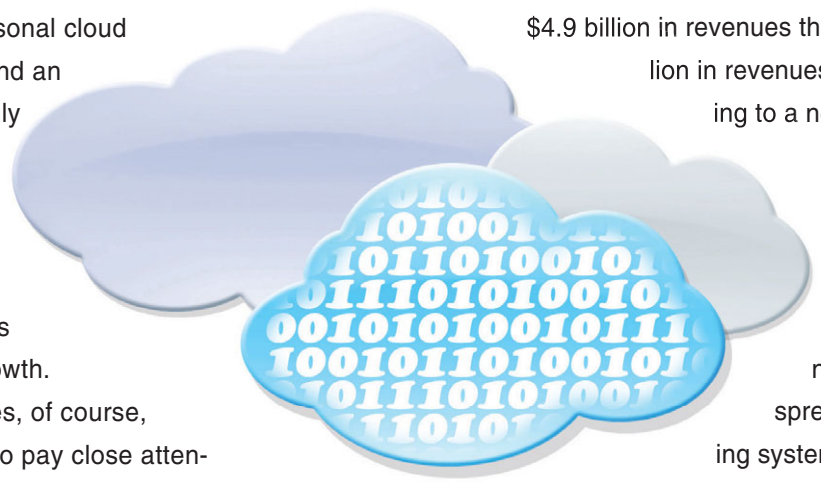
Red Hat, the Raleigh, N.C.,-based enterprise Linux and open source software developer, is in the process of acquiring Bedford, Mass.,-based FuseSource, a developer of open source integration and messaging software. "As cloud computing becomes more prevalent, enterprise customers are demanding greater application integration to enable seamless use of cloud computing," said Craig Muzilla, Red Hat VP and GM of middleware, in a statement. Red Hat will use FuseSource's software to enhance its JBoss integration product line. Financial and other terms of the acquisition agreement were not disclosed.

Social Media Continues To Draw Execs

The gravitational pull of social media today is reminiscent of the Internet in the late 1990s, when the number of Web sites grew rapidly as consumers began to expect every business of merit to have an associated dot-com address. Whether business executives like it or not (and many don't), many see the value in social media and most plan to jump on the bandwagon, at least in Canada. According to research from the Queen's School of Business, 39% of Canadian business leaders view social media as useful, 35% use it heavily, and 72% plan to invest more in it this year than last. A minority 24% doesn't think social media adds value.

Consumer Data Heads To The Cloud

The idea that consumers are increasingly entrusting their data to the plethora of cloud services available today is nothing new. But it may surprise many to learn that consumers could store 36% of their data in the cloud by 2016. That's the latest forecast on the topic from Gartner, which says that consumers currently store only 7% of their data in the cloud. Gartner cites the growth of the personal cloud concept and an increasingly used "direct-to-cloud model" as reasons for the growth. Businesses, of course, will need to pay close attention to the types of cloud-based services employees use at work so as to contain corporate data and perhaps stay ahead of the curve by authorizing select services for employee use.



Organizations To Spend More On Enterprise Software

Although Gartner has decreased by 5% its forecast for this year's worldwide enterprise application software expenditures, the latest information from the research company still indicates a spending increase for 2012. According to Gartner, enterprise software spending will reach $120.4 billion this year compared to $115.2 billion in 2011, a 4.5% increase. Gartner pointed out that with an increasing number of organizations choosing cloud computing services, enterprise software vendors are offering more "pay as you go" options. ERP (enterprise resource planning) and office suites top the list for forecasted 2012 enterprise software revenues at $24.9 billion and $16.5 billion, respectively.

Smartphones Could Save On Emissions, Researchers Say

According to the new "Green Handset and Tablet" report from Juniper Research, the manufacturing processes associated with smartphones produce twice as much greenhouse gases as other types of handsets. Juniper cites "raw material extraction, component manufacturing, device assembly, and transportation" as the culprits, and warns that emissions will increase substantially as it expects smartphone shipments to double within five years. The report suggests that by changing certain supply chain practices, smartphone manufacturers could save more than 33 million tons in greenhouse gas emissions over the next five years.

Wireless Charging Market To Triple Within 8 Years

The market for inductive charging mechanisms and other components related to wireless power systems will grow from an expected $4.9 billion in revenues this year to $15.1 billion in revenues in 2020, according to a new Pike Research Report, which also cites the green benefits of wireless charging. "While the market is still nascent, the rapid spread of wireless charging systems for mobile devices is a clear indicator that wireless power technology can be an environmentally friendly technology and that, before the end of the decade, it could contribute to a significant reduction in carbon emissions and embedded energy," said the report.

QAD Acquires Supply Chain Software Company DynaSys

QAD, a Santa Barbara, Calif.,-based company specializing in enterprise software and services for manufacturers, has acquired French supply chain planning software company DynaSys for roughly $7.5 million. The move will primarily serve to expand QAD's reach as the two companies' solutions overlap. "DynaSys is rich in both talent and technology, with exceptional customer commitment," said Pamela Lopker, QAD chairman and president, in a statement, "so we see a strong cultural fit between the organizations." DynaSys will remain intact as its own division within QAD. Ariel Weil, former DynaSys CEO, will serve as the division's general manager.

Micron Technology To Buy Memory Rival Elpida

Micron Technology, a Boise, Idaho,-based semiconductor company specializing in DRAM, NAND, and NOR Flash memory products, is set to acquire Tokyo-based rival Elpida Memory for around $2.5 billion. Micron is also buying Taiwan-based Powerchip Technology's 24% share in Rexchip Electronics. The transactions will help Micron to better compete with manufacturers in Taiwan and South Korea. "We are creating the industry-leading pure-play memory company," said Mark Durcan, Micron CEO, in a statement. Among the benefits, says Durcan, are "improved access to core memory market segments; and additional wafer capacity to balance among DRAM, NAND and NOR memory solutions for the ultimate benefit of Micron and Elpida customers."

Ingram Micro To Acquire BrightPoint

Based in Indianapolis, BrightPoint serves enterprise companies, major retailers, manufacturers, network operators, and other organizations worldwide with its mobile device lifecycle management and related services. Now due to be acquired by Ingram Micro, an international technology distributor based in Santa Ana, Calif., for $9 per share (approximately $840 million total), BrightPoint will become part of Ingram Micro, thereby expanding the reach of both companies. "BrightPoint's offerings are highly complementary to both our logistics and distribution businesses," said Alain Monie, Ingram Micro president and CEO, in a statement. "[This] will enable us to go to market with the leading portfolio of mobility device lifecycle services and solutions."

Businesses Considering Android For Tablets

According to "The Global Shift To Android: Business & IT Professionals," a new report from IDG Connect, the research company points out statistics that show business users starting to move away from iOS (iPads) and toward tablets running Google's Android platform. Of those business professionals who own a tablet, 59.9% currently own an iPad and 31.1% own an Android tablet, according to the report. However, for those who don't own a tablet but intend to buy one, 31.4% are considering an iPad while a slightly greater segment, 33.3%, are considering Android. The difference is more striking among IT professionals, as 25.7% are thinking about iOS while 49.4% are considering Android.

PHOTO LISTINGS

The *Processor* Photo Listings section includes brief overviews of data center products.

All products listed have been released recently,
so use this section to get up to date
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and to find products you need.

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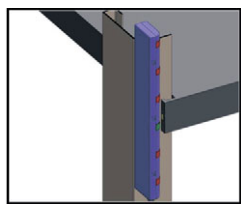

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Supermicro's patented Twin Architecture with up to 16 DIMMs per node for Highest Performance is the foundation of the most advanced server platforms in HPC/ Data Center, Cloud Computing and Enterprise IT applications. These high performance, high density systems feature optimum airflow for energy efficient cooling, easy maintenance and high availability with hot-swappable nodes and redundant power supply modules. These systems also feature the latest CPU and interconnect technologies for maximum processing performance and data throughput.

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SMCI-20120221-1

PRODUCT SPOTLIGHT

Colocation Providers

Joe's Datacenter

Joe's Datacenter is located on the top floor of the Oak Tower building in downtown Kansas City, Mo. Joe's Datacenter offers leasing of online dedicated servers, which can be more affordable than colocation. With dedicated servers, you get professionally tested hardware with onsite replacement parts for one low monthly cost. The server comes online, ready to go within 48 hours, in a secure data center.

- Free reboots; one free reload per month
- Detailed MRTG graphs
- Setup in 24 to 48 hours
- Fast, free 24/7 tech support

Best For: Small to midsized businesses.

Price: Starts at $35/month (month to month, with no contracts).

Contact: (877) 563-3282 | www.joesdatacenter.com
sales@joesdatacenter.com

MASSIVE NETWORKS

MASSIVE NETWORKS facilities, located in Englewood, CO, provide a secure, reliable and scalable foundation centrally located in the United States and 35 ms coast to coast latency. Massive Networks facilities are specifically designed to provide a state-of-the-art Data Center Colocation, Internet / Bandwidth Services, Cloud Computing Services and VoIP for your mission-critical infrastructure and applications demands. MASSIVE NETWORKS provides a scalable business in a box and the ability to provide high-density co-lo solutions on demand. Private networks in the massive cloud = security.

- Power and cooling densities exceed 24KW per cabinet
- SSA-16 / PCI / HIPAA Compliant
- Private Network Transport (PNT)
- Data center blended bandwidth to your location

Best For: Companies in need of Hosted PBX / SIP trunks, Cloud Computing Services, Metro Ethernet, Colocation, Hosting, Internet, Disaster Recovery, Backup, Antivirus

Contact: (877) 441-0713 or (303) 800-1300
www.massivenetworks.net

Starpoint Digital

Located 30 miles outside of Chicago, the Starpoint Digital data center offers colocation services geared toward medium to large-sized businesses. Service is fast, secure, and reliable, with both managed and unmanaged colocation offerings. Additional features include both high-level and low-level tech support, IP addresses, DNS hosting, device monitoring, and more.

- Shared and private colocation
- VoIP cloud PBX
- Cloud server and desktops
- T1 and fiber dedicated access
- Managed backup, firewall, and SQL

Best For: Enterprises looking for inexpensive shared rack space with a variety of added features.

Contact: (877) 968-7638 | www.mystarpoint.com

WANSecurity

WANSecurity provides secure and reliable data center colocation to businesses of all sizes. Ranging from partial cabinets to cages, we work with you to provide a solution that fits your needs within your budget. Secure facilities, multi-homed bandwidth, and redundant power make WANSecurity an excellent provider to colocate your servers. Our service, guarantee, and super kind and patient support team make us the best choice.

- Manages and maintains data centers based on ITIL best practice methods and techniques
- All customers have access to WANSecurity's flagship network and system monitoring software Nexus Director
- Locations in the United States, China, and Japan

Best For: Companies looking for a colocation provider with services designed to meet your needs and stay within your budget.

Contact: (213) 785-7800 | www.wansec.com

ViaWest

ViaWest's 22 data centers provide a solid data environment for peace-of-mind and a foundation that's safe, secure and incredibly reliable. Colocation from ViaWest is the ultimate solution for physical security, disaster mitigation, fire detection and suppression. With a 100% customer satisfaction SLA, ViaWest prides itself on its customer centric philosophy. ViaWest provides hybrid configurations allowing customers to cross connect their colo environment into its cloud, managed services and complex hosting solutions. ViaWest's redundant, diverse infrastructure is built to maximize uptime, with our facilities scaled to your individual needs. ViaWest has received SSAE 16 Type II SOC 1 Report, SOC 3 Report, and PCI Report on Compliance for Sections 9 and 12.

Best For: Companies looking for customized colocation services in a number of different industries, including healthcare, media, and enterprise.

Contact: (877) 448-9378 | www.viawest.com

Latisys

Latisys delivers end-to-end IT Infrastructure Outsourcing solutions to help businesses focus on growth and achieve an optimal return on their investment in IaaS:

- Secure, redundant and highly available Tier III data center footprint covering all four US time zones
- High-Density deployment of power and cooling to maximize efficiency and scalability
- Far greater utilization of data center square footage than most competitors in each market
- Carrier-neutral colocation facilities that are compliant with SOC 2 Type II and SOC 3 Audit Reports
- Full suite of Managed Services
- Robust Managed Hosting &Virtualization Platform
- Secure and Scalable Enterprise Cloud Solutions

Best For: Enterprises, government agencies and service providers that are looking for an innovative approach to solution design and service delivery. Latisys is a growth partner that collaborates with businesses for strategic, rapid time-to-value solution design and then provides expertise with prompt, professional service delivery of end-to-end IaaS solutions.

Contact: (866) 956-9594 | www.latisys.com/processor

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

FORTRUST

FORTRUST is a Premium Data Center Services Company delivering high-availability and high density enterprise colocation services to the business community. The FORTRUST Data Center is progressively designed and precisely managed to preserve business continuity for its customers seeking reliability, risk mitigation, business value, and customer service to strengthen their Information Technology environments.

- 224,000-square-foot facility located in Denver and additionally within the IO Arizona and New Jersey data centers
- Highly reliable critical systems infrastructure featuring 2N UPS distribution
- Layered 24/7 onsite security, Network Operations Center, and customer support staff
- Carrier-neutral connectivity options from a variety of popular carriers
- SSAE 16 Service Organization Control "SOC" 1 Type 2, SOC 2 Type 2 and SOC 3 SysTrust Services Organization reporting colocation facility

Best For: Companies seeking colocation services with a focus on uptime and risk mitigation.

Contact: (866) 976-9379 | www.fortrustdatacenter.com

OnRamp HIPAA-Compliant Colocation

OnRamp's data center team of HIPAA implementation experts works with its data center customers to build a comprehensive, HIPAA-compliant hosting solution that addresses the confidentiality, availability, and integrity of electronic personal health information. OnRamp has developed a 3-step process, rooted in the company's highly secure managed hosting, cloud computing, and colocation services, to diagnose, assess, and manage any threats, vulnerabilities, and risks to your IT infrastructure.

- OnRamp HIPAA-Compliant Colocation services meet the rigorous HIPAA compliance standards
- OnRamp 3-step HIPAA Risk Management Process assists each customer in making appropriate decisions as to how to use OnRamp's services to effectively and efficiently protect the customer's sensitive patient data
- OnRamp features the highest levels of security, reliability, redundancy, technical expertise, and monitoring 24/7/365 for HIPAA-Compliant Colocation

Best For: Any company that works with healthcare data and patient records.

Contact: (888) 667-2660 | www.onr.com

Compass Datacenters

Compass Datacenters builds and operates Truly Modular Data Centers providing dedicated customer solutions where they need them. Compass Datacenters' **patent pending** Truly Modular™ solution uses four standard modules to cost effectively deliver dedicated, hardened, Tier III certified*, LEED Gold data centers to businesses in the 98% of the country not covered by the data center industry. Through our innovative use of technology, and by leveraging our extensive customer and data center experience, we have designed a solution that removes the unnecessary complexities associated with data center design, construction and operations to provide you with an alternative that is easy to plan, implement, operate and grow.

Best For: Businesses requiring Tier III, LEED Gold Data Centers

Contact: (877) 289-7577 | www.compassdatacenters.com

CoreXchange

Transparent pricing for customizable colocation packages available for immediate purchase online. Founded by colocation industry veterans, CoreXchange continues to design innovative colocation solutions, within their SSAE16 SOC-1 Type II compliant data centers. All online colocation packages offer the following features:

- Online ordering of half rack, full rack, and private cage solutions
- MONTH TO MONTH term options
- Space in secure SSAE 16 SOC-1 Type II compliant data centers
- CoreXchange premium bandwidth mesh of Tier-1 carriers or reach any carrier directly
- Unmetered and burstable bandwidth options
- 24-hour physical access with secure check-in
- 24-hour on-site support with FREE remote hands and eyes services, including reboots
- FREE access to customer portal with bandwidth utilization reporting

Best For: Any company looking for an affordable, reliable, and secure colocation solution with always-available support.

Contact: (877) 271-7737 | www.corexchange.com

Green House Data

an economically responsible data center

Green House Data is an enterprise class colocation facility delivering state of the art services to businesses of all sizes. Our customers rest assured that their critical applications are always available in our N+1 redundant, highly secure facility. Our experienced employees are always happy to assist with any infrastructure needs. Powered entirely by renewable wind power, our energy efficiency is 40% better than typical data centers. We pass this power savings to our clients to offer highly competitive rates on all of our services.

- Cloud hosting, managed hosting, and disaster recovery also available
- 100% service level agreements
- 24/7/365 network monitoring, support, and access
- 10Gbps to 40Gbps point to point and Internet access available
- SSAE 16, Type II Compliant

Best For: Video and digital imagery companies that are looking for a reliable, highly available colocation facility that provides a sustainable business model at affordable prices.

Contact: (866) 995-3282 | www.greenhousedata.com

A5.com

A5.com is a premier data center, colocation and security services provider operating (2) Tier 3 data centers in Peoria and Bloomington Illinois, approximately 135 miles south of Chicago, 165 miles north of St. Louis, and 170 miles west of Indianapolis. Our strategic locations provide a geographically redundant and diverse option for enterprises looking for disaster recovery sites in the Midwest. Our efficient and environmentally-friendly Tier 3 design can provide lower costs and 100% uptime, while our SSAE-16 audits provide transparency and assurance that your mission-critical systems and services stay operational.

- Power densities over 25kw rack available
- SSAE-16/Tier3 design
- Multiple, redundant fiber/IP carrier options
- Smart Hands on-site support options, 24/7 access
- Additional in-depth security services available including network monitoring, log analysis, SEIM, and pen testing

Best For: Enterprises looking for DR solutions in secure, cost-effective locations, as well as enterprises looking at Cloud Computing, Colocation, Managed Security and Data Backup.

Contact: (309) 820-7518 | www.a5.com

PRODUCT SPOTLIGHT

Colocation Providers

NetSource Communications

NetSource Communications, a hosting solutions provider located just outside of Chicago, offers colocation services with the rack space, power, bandwidth, and security for any enterprise. NetSource offers advanced managed services with a colocation agreement, including firewalls and data backups. Experienced technicians are on hand for support and to help customize a server architecture for any particular need.

- N+1 redundancy built into the data center infrastructure
- Variety of colocation and managed service packages available
- Strict security with 24/7/365 video surveillance
- Unique options for different sizing or pricing needs
- Low latency bandwidth, with almost unlimited bandwidth available
- Flexibility in power needs

Best For: Enterprises in need of a colocation solution with a variety of sizing and pricing options.

Contact: (866) 778-1212 | www.ntsource.com

StratITsphere

StratITsphere Data Center Solutions is a fully integrated infrastructure service provider. SDCS operates a state-of-the-art, Tier IV designed facility named StratITsphere Alpha ("Alpha"), 25 miles northwest of downtown Houston, in the city of Katy, Texas. StratITsphere Alpha provides a full suite of data center services and business continuity solutions to our customers. The Alpha facility is located outside the 500 year flood zone and off of any major thoroughfare. This data center is a newly designed, state of the art facility built with the most recently recognized best practices known within the data center world. All of the redundancy our customers require is built into the design of StratITsphere Alpha.

- Infrastructure Consulting
- Cloud Computing
- Co-Location
- Managed Services

Best For: Companies looking for "always-on" service, including 24x7 manned security presence, video surveillance, and 24x7 manned Operations Control Center.

Contact: (888) 316-4191 | www.stratITsphere.com

Corkat Data Solutions

CorKat Data is an enterprise-class facility in Northern Colorado delivering customized solutions to small and medium-sized businesses all over the world. Our Tier III, SSAE 16, Type II data center includes 3 phase power standard, carrier-neutral connections, and a full suite of managed services. Our customers enjoy the benefit and the freedom to select any combination of services to meet their needs for today and the future. Our service offerings include IaaS, PaaS, SaaS, MaaS business continuity, and colocation.

- N+1 Redundancy
- 24/7/365 escorted access
- 24/7/365 Video Surveillance
- ¼, ½, and full rack options
- Fixed pricing model

Best For: Small and medium-sized businesses that desire assistance in determining their needs and are looking for a fixed-cost solution for private clouds, collocation, and business continuity solutions, including offsite backups.

Contact: (855) 571-4874 | www.corkatdata.com

360 Technology Center Solutions

360TCS, LLC is a premium provider of enterprise-level colocation and data center services. Strategically located in the Chicago suburbs, the 360TCS data center features an ultra-efficient, environmentally friendly Tier III design providing our clients with 100% uptime. As an SSAE-16 Type II audited facility, the 360TCS data center provides a physically secure, fully redundant environment, ideal for supporting mission-critical data and hardware deployments.

- Power densities in excess of 32kW per cabinet
- 24/7 onsite security and surveillance
- Reliable connectivity with access to multiple carriers
- 2N redundant, energy-efficient chilled water cooling system
- Cost-effective, customizable solutions
- Multiple levels of support and remote hands services available

Best For: Enterprises looking to add a level of redundancy to their IT infrastructure. Ideal for high density deployments of blade server technology, power-hungry storage arrays, and high performance computing clusters.

Contact: (888) 313-1306 | www.360tcs.com

Cologix

Cologix is a network neutral interconnection and colocation company that provides scalable interconnection services and secure, reliable colocation services within the key carrier hotels in Dallas, Minneapolis, Montreal, Toronto, and Vancouver. Cologix provides broad connectivity through managed neutral Meet-Me-Rooms which drive network costs down while providing flexibility through low switching costs. Cologix offers more than 300 network choices in 11 prime interconnection locations and supports more than 550 customers.

Cologix solves for:

- Interconnection (financial, voice, IP peering, media, Ethernet)
- Enterprise core network hub
- Carrier PoP/peering
- Media hub/distribution
- Content delivery infrastructure
- Diversity and redundancy

Best For: Enterprises looking for a colocation provider that offers broad neutral connectivity choices through managed Meet-Me-Rooms and high touch, local customer support.

Contact: (855) COLOGIX | www.cologix.com

Do you have a

NEW PRODUCT

that data center/IT managers would be interested in learning about?

Send your press release or related product information to press@processor.com.

Buying Tips:

Colocation Providers

If you're searching for ways to cut down on costs, consolidate your equipment, or set up a disaster recovery solution for your data center, then colocation might be the answer to your problems. But there's much more to the colocation buying process than simply pointing to a provider and signing an agreement.

"A data center or colocation service provider should serve as an essential extension of their customers' operations while providing value to the customer's business through reliability, risk mitigation, business value, and customer service," says Robert McClary, vice president of FORTRUST (www.fortrustdatacenter.com). It's important to examine the purchasing decision from every possible angle and understand the true role of the colocation provider.

✔ Consider Usage & Location

The first thing you should consider when trying to select a colocation provider is how you want to use the facility and for what purpose. Some companies invest in colocation so they can cut down on internal data center and infrastructure costs while others hope to set up a safe solution for disaster recovery. Once you know how you intend to use equipment in your colocation environment, you can then find the best location.

"Many companies will look for data center and colocation service providers in their immediate area in order to be close to their equipment," McClary says. "However, it is becoming increasingly more common for companies to look outside their immediate area for a number of reasons, including geographic risk mitigation, cost of power, and latency."

✔ Know The Reputation Of Your Provider & Its Facility

Checking a colocation provider's past history is as important as making sure it's in a safe location, if not more so. Request customer referrals whenever possible and gather as much information as you can about the provider before you make your decision.

Robert Smith, CTO and director of IT at WAN Security (www.wansecurity.com), says that companies should be as thorough as possible. He recommends that the buyer "go onsite to a facility, personally check their power infrastructure, speak with the data center manager or maybe even the network engineer on duty, and review their maintenance policy." By doing your due diligence up front, you will ensure that you aren't stuck in a long-term contract with a less-than-stellar vendor.

✔ Choose Equipment Wisely

After selecting a colocation provider and a facility, focus on the types of equipment you want to house there. Keep in mind that the equipment you choose will have the largest effect on the costs of colocation.

"In many data centers or colocation facilities, power is the driving force that affects cost and pricing," says McClary. "The power and density requirements of the equipment that a company intends on colocating will normally dictate the cost. Matching the business's needs to its data center or colocation strategy is key."

✔ Make Sure There Is Room For Growth & Expansion

Although it's important to put a heavy focus on what your company needs now in terms of equipment and performance, it's also crucial to look to your company's potential future needs and ensure there is enough room for expansion years down the road. Instead of backing yourself into a corner, make sure your colocation provider's facility is flexible enough to support more or less equipment depending on whether you wish to expand or consolidate at a later date. P

Buyers' Checklist

- ✔ Who owns the colocation facility?
- ✔ What are your short- and long-term plans for the facility?
- ✔ What options are in place for potential company growth and expansion?
- ✔ How much power and space do you need?
- ✔ Does the facility offer 24/7/365 customer service?

Key Terms

Cabinets, cages, and suites.
Terms used to describe how much space a company needs for its colocation resources. Cabinets are for companies that only need a small amount of space; suites, vaults, or rooms are required for larger-scale colocation needs.

Geographic risk mitigation.
The practice of selecting a colocation provider and facility based on the location of its data center. For instance, choosing a data center located in a region with a calmer climate vs. one located in a region that's prone to hurricanes, earthquakes, or other natural disasters.

FEATURED PRODUCT

One Solution For Almost Any Storage-Related Problem

Aberdeen AberSAN Z-Series & Its Web-Based GUI Offer Simplified Hard Drive Management

In most cases, it's safe to say that the more parts something has, the more complicated it is. This sentiment fits the world of mass storage solutions perfectly. It's relatively easy to locate and manage one hard drive in a single desktop computer or even as many as eight hard drives in a larger storage platform, but the difficulty increases to new highs when dozens or hundreds of drives are involved. While current ZFS-based offerings allow you to alphabetize hard drives according to unique identifiers, there is no simple or intuitive way to know exactly where that drive is in the array.

"Adding, removing, or replacing a hard drive typically rearranges the list," says Yuval Bymel, R&D engineer at Aberdeen. "These hard drive changes make it impossible to have a label on the system showing the correct order of the drives at any given time. Under ideal conditions, this may be an adequate solution. But when a drive fails, or if it completely disappears from that list, there is no easy way to identify the slot in which that drive resides."

To help data center and IT managers overcome this hard drive hassle, Aberdeen built its Z-Series line of scalable storage products, which include Intel® Xeon® Processors, with its proprietary Web-based GUI that makes it easy to not only identify the hard drive, but also pinpoint its exact location in the array. This GUI goes above and beyond the traditional ZFS system to make hard drive swaps or fixes quicker and easier.

Scalable Storage Products

Aberdeen's Z-Series scalable storage products can be customized to your needs. Whether you need to store a few terabytes of data or as much as a petabyte or more, the Z-Series platform can handle it. Aberdeen also made sure these solutions would be ready for future use and offers 10Gb Ethernet or 8Gb Fibre connectivity as an optional add-on.

The GUI built into Aberdeen's Z-Series line of solutions creates an accurate graphical representation of your entire array, letting you see the physical location of a server's hard drives without manually searching through the array. When you click an individual drive, the GUI shows you its location on the server itself as well as its physical location within the array. And the GUI will also take any changes you've made into account. "You can rest assured the GUI matches the server's hard drive slot label and retains that order no matter which drives you use, how many you have, or even if you have to replace a failed drive," Bymel says.

The Z-Series GUI also lets you select which drive you want to replace while keeping all of your hard drives in the correct order. You can even rearrange the order at any given time or move your drives to another enclosure. Regardless of how you choose to arrange or manage your drives, the Z-Series GUI will keep up with you and provide the same identification and location information based on the new configuration.

Easier To Use

Aberdeen's addition of the Web-based GUI serves to make the Z-Series even easier to use in the data center. The platform is scalable enough to support a wide range of storage needs and can scale to as much as a petabyte of storage or more because the GUI makes it easier to locate, swap out, or move hard drives. Regardless of how large or small your storage needs, Aberdeen can help with a solution that will relieve your hard drive headaches. P

Aberdeen Z-Series

(800) 500-9526
www.aberdeeninc.com

Aberdeen's Z-Series line of scalable storage solutions are built with a ZFS-based file management system as well as a helpful, Web-based GUI that makes it easy to identify and locate specific hard drives in an array.

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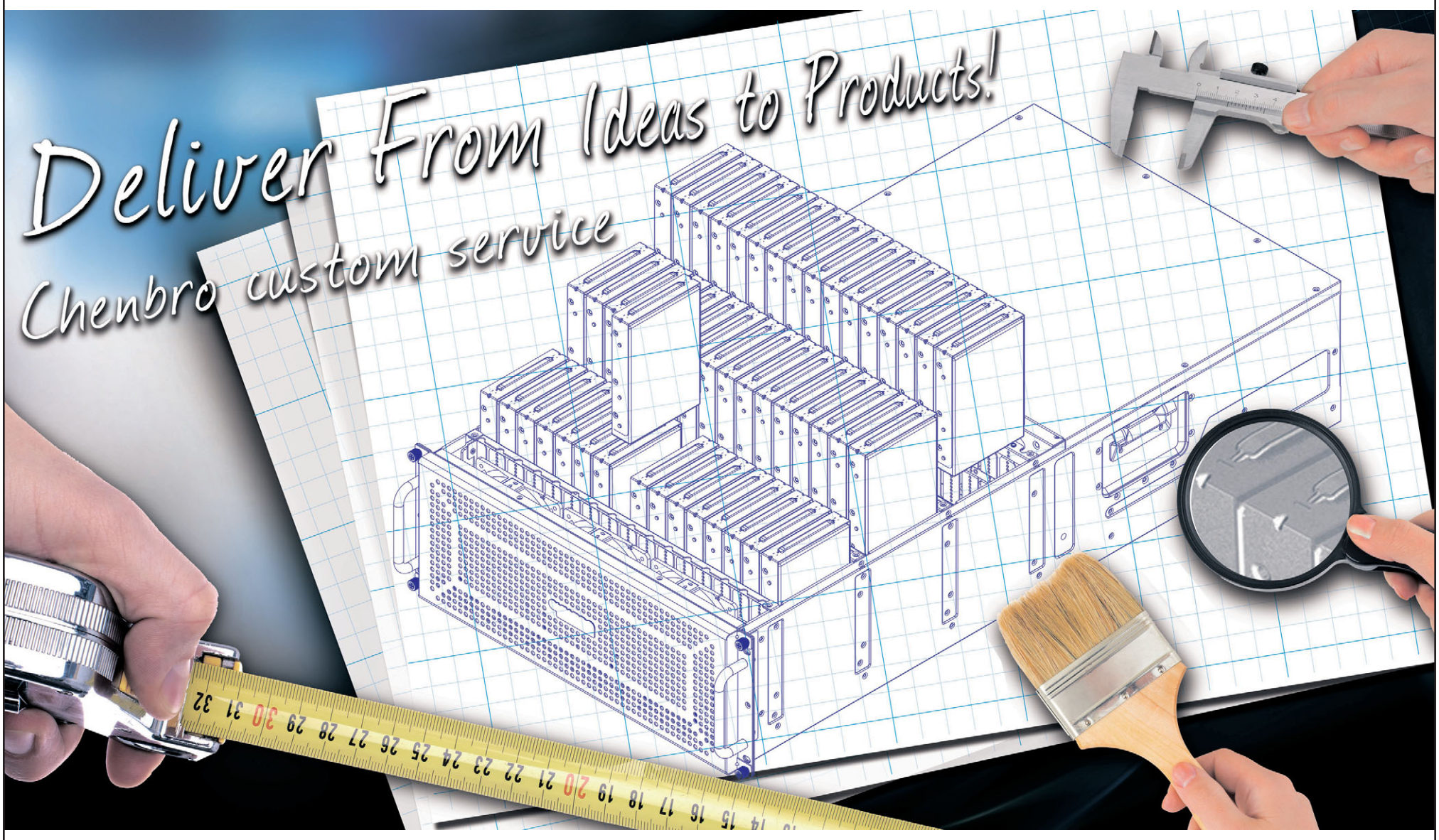

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PRODUCT SPOTLIGHT

KVMs

Rackmount Solutions CyberView Matrix High-Density CAT 5 KVM (UIP-3202)

The CyberView UIP-3202 from Rackmount Solutions is a 1U high-density CAT 5 KVM switch with 32 ports. It offers a maximum distance of 40 meters (130 feet) between your server and KVM switch with the rear cable management using CAT 5 cords. With the UIP-3202, you can mix PS/2, USB, and SUN with multiplatform switch capability. A second user can work securely over 128-bit encrypted IP access using the Web interface to control multiple servers down to the BIOS level.

- Use of the RJ-45 CAT 5 interface allows for a higher number of ports in smaller density
- Traditional CAT 5 cords provide simpler cable management compared to coaxial cables
- 128-bit secure browser-based user access from anywhere in the world over IP
- Advanced user profiles and configurable OSD hotkey combinations

Best For: Enterprises that need a KVM switch that offers increased density, increased distances, enhanced cable management, and multiplatform capabilities over traditional KVM switch platforms.

Price: $1,543

Contact: (866) 207-6631 | www.rackmountsolutions.net

Rackmount Solutions IP DB-15 KVM Switch

The IP DB-15 KVM Switch from Rackmount Solutions lets you access up to 128 servers from anywhere in the world over IP. It comes in both an eight-port (IP-802) or 16-port (IP-1602) version with three-in-one KVM cable in 6-, 10-, 15-, and 33-foot lengths. The local console supports a resolution up to 1,920 x 1,440 and has two USB Type A ports for a keyboard and mouse. The remote console has a resolution of 1,600 x 1,200 and can accommodate up to 15 user logins.

- Eight or 16 ports in 1U of rack space
- 128-bit secure browser-based user access from anywhere in the world over IP
- Cost-efficient remote server management
- Multiplatform support: PC, Sun, IBM, HP, and Dell
- Supports Windows Vista/2003/XP/2000, Linux, Netware, Unix, and DOS

Best For: SMEs in need of a cost-efficient way to manage up to 128 servers remotely.

Price: $913 (16-port), $724 (eight-port)

Contact: (866) 207-6631 | www.rackmountsolutions.net

Rose Electronics QuadraVista HDMI KVM Switch

The QuadraVista HDMI is a KVM switch from Rose Electronics used to control up to four HDMI or DVI video-equipped computers. Designed for display flexibility, the switch allows all video sources to be displayed simultaneously, while providing the ability to quickly switch any video input to full-screen display. When multiple sources are displayed, each window can be resized, repositioned, swapped, or locked in place with a click of the mouse. Resolutions up to 1,920 x 1,200 are supported, and output monitor display capability is automatically detected and supplied to connected computers. The computers are controlled through either USB or PS/2 keyboard and mouse interface.

- Accepts either digital or analog audio streams
- Configuration software allows the user to create display presets, which are stored in the switch and recalled with simple keyboard commands
- Can be controlled from an external computer or controller
- Control and monitor up to four HDMI video sources on a single display
- Picture-in-picture, touchscreen, and USB hub support

Best For: Enterprises in need of a powerful, flexible multi-viewer product.

Contact: (800) 333-9343 | www.rose.com

Black Box ServSwitch DKM Switching System

The ServSwitch DKM KVM Switching System from Black Box comprises modular housing chassis with two, four, six, or 21 slots and transmitter and receiver interface cards. The DKM extender setup provides the widest range of possible combinations, which makes it easy to customize for specific applications. The DKM switches and modular cards work over single- or multimode fiber cables or over CATx cables. The switches also can be set up in a variety of configurations, including matrix switch, dual- or quad-head KVM switches, Share Mode, and Classroom Mode.

- Four housings are available: desktop housings for two, four, or six boards or a 19-inch, 4U rack for 21 boards
- A redundant power supply option is available for some housings
- Modular transmitter and receiver cards can be copper- or fiber-based
- Extend DVI-D video, USB HIDs, audio, RS-232, or USB 2.0

Best For: KVM extension setups that require flexibility.

Price: Housings start at $164.95; interface cards start at $119.95

Contact: (724) 746-5500 | www.blackbox.com

Black Box ServSwitch Secure KVM Switches with USB

Black Box ServSwitch Secure KVM Switches with USB are EAL4+ Certified and TEMPEST Level 1 Qualified, surpassing the security profiles of most other KVM switches. ServSwitch Secure switches provide control and separation of up to four PCs connected to secure and non-secure networks through just one keyboard, monitor, and mouse. Users can safely switch between as many as four computers operating at different classification levels without worry. ServSwitch Secure KVM Switches with USB prevent data from leaking between ports and to the outside world and prevent data from being stored in the device.

- Prevent electronic snooping
- Available in two- or four-port models
- Support DVI-I video
- Feature high port-to-port isolation and external tamper-evident seals
- Some models include support for card access readers

Best For: Military and governmental organizations that depend on keeping sensitive data from leaking to the outside world or between secure and non-secure systems.

Price: Starts at $475.95

Contact: (724) 746-5500 | www.blackbox.com

Rose Electronics Xtensys CAT 5 KVM Switch

The Xtensys CAT 5 KVM switch from Rose Electronics can be deployed and scaled to any computer environment, from the simplest to the most complex. Enterprises can connect either a miniature Rose KVM transmitter or a serial cable to the RJ-45 computer input connectors on the unit, and it auto-detects the interface; if video is present, it will automatically measure the distance and equalize the video for maximum clarity. On the user side, you can connect a KVM user station to access any computer, and the built-in OSD and hotkey system lets you select a computer using simple keyboard commands or choose from a list and switch to it instantly.

- Modular architecture and built-in high-performance video bus
- Auto-equalization and skew on UTP cable for video up to 1,920 x 1,440
- Models available for up to 16 users and up to 64 CPUs
- Connect a user station to multiple Xtensys units
- Advanced security features

Best For: Enterprises looking for a flexible, easy-to-use KVM solution.

Contact: (800) 333-9343 | www.rose.com

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

RackSolutions Rackmount KVM

The Rackmount KVM from RackSolutions is a low-cost, space-saving monitor and keyboard mount that only uses 2U of rack space and works with square, round, or threaded hole racks. You can use your own monitor with this KVM, or you may select an option that comes with a 17" or 19" monitor. The mounting depth adjusts from 15.5" to 31.5" to give you flexibility when installing it in your rack.

- A fraction of the cost of typical OEM solutions
- Works with any 4 post, 19" rack (2 post options also available)
- 28" travel rack rail equipped with ball bearings for extra support and easy slide control
- Compatible with most KVM devices
- Trackpad keyboard supports PS/2 and USB connections
- Comes assembled with keyboard and monitor cables already routed; the only assembly required is the monitor
- Cable management arm included

Best For: Enterprises that need a low-cost, feature-filled KVM that conveniently slides into the rack when not in use.

Price: Starts at $399 (without monitor)

Contact: (888) 903-7225 | www.racksolutions.com/kvms

RackSolutions 2-Post Rackmount KVM

The 2-Post Rackmount KVM from RackSolutions is a flexible KVM solution that can be purchased with a 17" or 19" monitor or without a monitor, allowing enterprises to use their own monitors for even further savings. The 2-Post Rackmount KVM installs in any 2-post, 19" rack, can be flush mounted or center mounted, and is compatible with 10-32 or 12-24 threaded holes.

- Space-saving trackpad
- Compatible with USB and PS/2
- Ball bearing slides with 28" travel
- Compatible with most KVM devices
- Comes assembled with keyboard and monitor cables already routed; the only assembly required is the monitor
- Cable management arm included

Best For: Companies that need a low-cost, flexible KVM solution that's easy to implement.

Price: Starts at $439.99 (without monitor)

Contact: (888) 903-7225 | www.racksolutions.com/kvms

Trendnet TK-804R

Trendnet's eight-port TK-804R KVM switch features an on-screen display that lets users manage multiple computers with just one keyboard, monitor, and mouse. It supports USB and PS/2 interfaces on the console side and USB interface on the PC side. Users can switch between PCs using hotkey, push-button, or on-screen display for flexible management and can hot-plug PCs quickly to avoid downtime.

- Supports high-quality video up to 2,048 x 1,536
- Advanced adjustable auto-scan modes for monitoring multiple computers
- LED display for easy status monitoring
- Password protection with auto timeout logout
- Auto-detect power module bank number when daisy-chaining
- Built-in daisy-chain port for cascading up to 16 levels (128 computers) of up to 30 meters total distance
- Beep alert for port-switching confirmation
- Standard 19-inch 1U rackmount design

Best For: SMEs that need to monitor multiple PCs quickly and efficiently.

Price: $299.99

Contact: (888) 326-6061 | www.trendnet.com

Trendnet TK-IP101

The TK-IP101 from Trendnet is a one-port KVM over IP switch that provides cost-effective remote server management for multiple users, regardless of server status. It eliminates the need to physically be in the server room to troubleshoot, reboot, and edit pre-boot functions. The TK-IP101 gives admins highly secure access to both Windows and Java-based clients. The TK-IP101 supports four concurrent logins with up to 16 active user accounts.

- Save time and resources by managing resources remotely
- Centralize management of multiple servers when connected to a conventional KVM switch
- Crisp 1,600 x 1,200 resolution
- Intuitive Web user interface permits upgrades and backups
- Supports user-friendly Telnet sessions and FTP access
- Use with Trendnet's TK-RP08 to control on/off power cycling of multiple devices remotely
- Works with LDAP, RADIUS, and Active Directory servers
- Supports Ethernet RJ-45 and PPP connection over serial RS-232 interface with data rates up to 1Mbps

Best For: IT staff that want to control BIOS-level functions, Windows-based applications, and other interfaces from a single intuitive Web user interface.

Price: $499.99

Contact: (888) 326-6061 | www.trendnet.com

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PRODUCT SPOTLIGHT

Buying Tips: KVMs

If there's one truism concerning KVMs, it's that they offer plenty of options. Brett Femrite, Rackmount Solutions director of business development (866/207-6631; www.rackmountsolutions.net), says models include simple desktop options that control a handful of computers up to enterprise-level, IP-based KVMs with integrated matrix switching that let multiple users simultaneously access different devices.

✔ Consider Security

For small to midsized enterprises, Femrite says, one security-related feature worth considering is automatic time out, which automatically disconnects users after a specified period of inactivity. Another priority feature for data centers with multiple users accessing the enterprise's devices is permissions-based access rights, which grants specific users access to only the devices and administration levels they need and no more.

✔ Decide How You'll Switch

Where switching among the computers connected to the KVM is concerned, Mike McCurry, U.S. product manager for KVMs at Black Box (www.blackbox.com), says many Black Box clients request hotkey switching, which lets the operator switch between servers/CPUs via the keyboard. On-screen display switching, which allows for switching from a pop-up menu, is also popular. Third on the list, he says, is multilayered switching technology that lets a user select connectivity to one CPU while selecting peripherals from another CPU. An example, he says, would be playing audio from CPU 1 over desktop speakers while connecting to applications via CPU 2 and printing from CPU 3's connected printer.

✔ Don't Forget The Basics

McCurry says one item that IT often overlooks when selecting KVMs is accounting for cable and/or server access modules. "This is the equivalent to not getting the batteries for a new toy," he says. Matrix KVMs may be overkill for typical small to midsized enterprises, he says.

For companies that are not controlling a large number of distributed devices, Femrite says, KVM over IP may not be necessary and could be cost prohibitive. An item worth considering, he says, is built-in remote access ability for connecting the KVM to the network and managing devices from anywhere.

McCurry says remote access is particularly important because 24-hour onsite tech support is often cost-prohibitive. "Having the ability to open a browser and remotely access, review, reboot, or update a server without traveling back to the office is a great method of keeping your network healthy and employees happy," he says.

✔ Seek Advice & Support From A Leading Provider

McCurry considers acquiring sound, objective, experienced technical advice from a leading provider of KVM solutions as the most important aspect of buying KVMs. Also important, he says, is getting the best solution for the applications you need and within your budget, not being "sold the spiffed product of the week or month." Also ensure you get real after-purchase support at no additional charge.

✔ Factor In Compatibility

Compatibility must be accounted for, Femrite says. Determine the number of devices you want to connect, hardware devices you'll connect to it (mouse, keyboard, monitor), and the connection types (USB, PS/2) you need. Also factor in future additions or purchase a KVM that can daisy chain or cascade to avoid having stranded assets you outgrow, he says. McCurry suggest looking two to three years forward when planning for network and systems growth. "Many KVM switching systems can easily be expanded by cascading to another KVM switch," he says. Femrite says a KVM should also be compatible with computer/server OSes and the interface of the monitor you'll connect to (DVI or VGA).

Some KVMs integrate the switch and a slide-out monitor/keyboard combo in an all-in-one unit that only uses 1U of rack space, a convenient option when mounting a KVM in a rack. Also determine the maximum distance you need to connect devices to the KVM. "If further than approximately 25 feet, you should opt for a CAT5 cable vs. the standard KVM cable kit," Femrite says.

McCurry says Black Box doesn't typically encounter client compatibility issues with OSes, but custom software and drivers installed on a target computer may be incompatible. "IT should be aware of the supported USB drivers available on the OS itself when working with a USB-supported KVM. . . . The ultimate goal is to have a KVM switch that will not cause IT headaches when it comes to the target computers' installed software," he says. P

Key Terms

KVM sharing.
Enables multiple users to access the same KVM.

Remote access.
Enables connecting a KVM to a network to provide management of devices from a browser.

Buyers' Checklist

- ✔ How many servers or CPUs will you manage?
- ✔ How many concurrent managers will need access to servers/CPUs?
- ✔ Do you need remote IP access?
- ✔ What connections and video types must the KVM support?
- ✔ Is standard USB keyboard and mouse support sufficient or do you require support for nonstandard USB devices?

FEATURED PRODUCT

Scalable & Expandable Storage

Aberdeen AberSAN ZXP & AberNAS N10L Series Are Ideal For Traditional & Virtualized Environments

Aberdeen has been providing high-capacity, high-speed storage solutions for data centers for many years. And from the beginning, the company has put a strong focus on the customer experience with each one of its products. "All Aberdeen systems are fully customizable," says Larry Aguilar, marketing manager at Aberdeen. "Aberdeen does not carry prebuilt systems. Each system is tailor-made based on each customer's requirements and specifications."

Aberdeen's AberSAN ZXP Expandable ZFS SAN Storage Subsystem and AberNAS N10L Series are no different. They provide flexible and scalable storage that is designed to grow alongside a company and provide the high level of performance needed for many years to come.

Virtually Unlimited Storage

Perhaps the biggest selling point of Aberdeen's AberSAN ZXP systems is that they have virtually unlimited storage. The AberSAN ZXP is built as a 128-bit system and uses a ZFS file system. This combination lets you produce unlimited snapshots for quick data restoration as well as unlimited file sizes. For management, Aberdeen includes a Web-based GUI to help manage and configure the hard drive array(s).

Aberdeen uses its ZFS-based file system to protect data and support virtualization, if necessary. Because the AberSAN ZXP provides unlimited storage, it's capable of storing a large number of backups and system instances in case you need to restore your system due to a large-scale disaster. Aberdeen products use the ZFS file system to avoid silent data corruption, so you can be sure that every save is stored correctly and will be available when you need it. You can leverage the ZFS file system to use thin provisioning and I/O pooling. Plus, Aberdeen's solutions are designed to work specifically with VMware environments as well as other virtualization offerings.

The AberSAN ZXP is perfect for cloud environments. Not only does it provide a large amount of storage, it is also easily expandable from a smaller starting size up to a large-scale cloud infrastructure machine. You can choose from a 19-inch rackmount solution with a 2U Head Unit, 3U JBOD Expansion, or 4U JBOD Expansion, which provide depths of 17.7, 25.5, or 27.5 inches, respectively. Each system comes with different power supplies and storage options and up to 192GB of DDR3 memory. The AberSAN ZXP can handle any storage-related needs you currently have while leaving enough room for the needs you haven't even thought of.

Designed For Businesses Of All Sizes

Aberdeen's solutions are designed to work for all companies, from the smallest businesses to the largest enterprises. That's why the AberNAS N10L Series of products are Linux-based servers that are available in 2.4TB, 4TB, 8TB, and 12TB capacities and can be built to provide RAID 0, 1, 5, 6, 10, 50, and 60 environments depending on the level of storage you need. The AberNAS N10L Series also features an expandable SAS port, so you can connect Aberdeen XDAS (direct attached storage) units for additional storage space when you need it. And because these solutions use an open storage platform, they can be easily configured and reconfigured to meet any data center's specific needs.

AberSAN ZXP

The AberNAS N10L Series is also ready for virtualization and the cloud, because each 32-bit model is VMware certified, and 64-bit certification is pending. You can start off with any of the base models for simpler virtualized environments and then expand your storage as you expand your cloud-based projects.

In addition to the storage space, 6GB to 24GB of DDR3 memory, and VMware certification, Aberdeen's AberNAS N10L Series is built to work with some of Intel's newest technologies, including Intel's QuickPath Technology and a built-in memory controller, to provide the highest level of performance and speed. P

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Aberdeen AberSAN ZXP & AberNAS N10L Series

(800) 500-9526
www.aberdeeninc.com

Aberdeen's scalable storage solutions feature the Intel® Xeon® Processor and take advantage of ZFS-based file management for virtually unlimited storage and ensure that these products will grow alongside your company to provide the highest level of performance.

PRODUCT SPOTLIGHT

Specialty Racks & Accessories

Hergo Jupiter Co-Location Cabinet

Hergo's heavy-duty full-size Co-Location Rack Cabinet features 20U x 2 top and bottom locking compartments.

- Basic standard frame size – 42U x 36"D
- (8) Mounting Rails
- Removable, Lockable Side Panels
- Front Door – Fully Perforated/Rear Door – Solid with Knock-outs for up to (3) Fans (Optional) – Handle or Combination Lock available.
- (2) Locking/(2) Non-Locking Casters Supplied.
- Quality Powder Coat Finish – Environmentally Friendly
- Options include: Fixed/Slide-Out Shelving, Power and Cable Management

Best For: Customers requiring complete security and protection of valuable network equipment at host or private locations.

Price: Sizzlin' Summer Special: 36"D - $1595 (through August 15, 2012)
48-Hour QuikShip (product ships within 2 business days after receipt of order).

Contact: (888) 222-7270 | www.hergo.com

Rackmount Solutions Network Cable Bundle Server Rack

Need to secure a rack with a serious number of cables? Rackmount Solutions' Network Cable Bundle Server Rack solves all problems. With a roomy interior up to 28 inches, you can set your rails to 19 or 23 inches and slide left, right, or center to allow for your cabling needs. Rails slide front to back and side to side for maximum flexibility. The unit is available as an open rack or with doors, side panels, and tops for security/aesthetics.

- Compatible with all leading servers, including blade servers
- Allows up to 10 inches of cabling space between side panel and rail
- Use as an open rack or add security with locking side panels and doors

Best For: Data centers and standalone applications needing to integrate quantities of cable drops.

Price: Starts at $1,115

Contact: (866) 207-6631 | www.rackmountsolutions.net

Rackmount Solutions Air Conditioned Server Cabinet & Soundproof Server Rack

Rackmount Solutions' Air Conditioned Server Cabinets have built-in A/C units with 4K, 7K, 10K, or 20K BTUs to protect equipment in warm or dirty environments. Units are available from 14 to 48U, with depths from 24 to 42 inches. Soundproof Server Racks from Rackmount Solutions reduce external sound up to 28.5dB while dispersing internal heat loads up to 7kW. Built-in casters make it easy to move these servers to another area when the need arises. The Soundproof Server Racks are available in active and passive versions and in 24U and 42U sizes.

- Air Conditioned Server Cabinet protects expensive equipment from overheating, works like a refrigerator with a condensate pan, and can be paired with a rack-mount or side-mount A/C for more space
- Soundproof Server Racks decrease noise up to 28.5dB(A), which is the equivalent of taking freeway noise levels down to library-quiet. Also disperses up to 7kW of heat. Employees can concentrate better, leading to increased productivity and less physical strain from excessive noise

Best For: Data centers and standalone applications with heat problems.

Price: Starts at $5,633 (Air Conditioned Server Rack) and $5,249 (Soundproof Server Rack)

Contact: (866) 207-6631 | www.rackmountsolutions.net

RackSolutions Secure Server Unit

The Secure Server Unit (SSU) from RackSolutions helps protect sensitive server data by locking the unit in the rack and preventing access to its ports, hard drives, etc. If you have a need to secure one or more servers within a shared rack, the SSU is the perfect solution. The Secure Server Unit may also be used as an economic alternative to a colocation cabinet. It includes a front and rear housing that each mount to the rack and include doors that are only accessible with a key. A top cross bar is an additional deterrent for unauthorized server access. The SSU is compatible with square, round, and threaded hole racks, and it is designed to accommodate two 1U servers or one 2U server.

- Economic alternative to a colocation cabinet
- Works with any 4-post, 19-inch rack
- Has locking doors in front and rear of rack
- Houses two 1U servers or one 2U server
- Requires RackSolutions Universal Rack Rails

Best For: Securing single servers in a shared rack.

Price: Starts at $219.99 (Part #: 124-2247)

Contact: (888) 903-7225 | www.racksolutions.com

RackSolutions Colocation Cabinet

The Colocation Cabinet provides a secure, self-contained means for up to four tenants to share a single cabinet. This cabinet efficiently utilizes the floor space in data centers by minimizing the amount of unused space in cabinets. The manufacturing quality of this cabinet will instill confidence in the tenants that their equipment is protected from unauthorized access.

- 4 secure compartments for tenants
- 11U of usable space per compartment
- Secure compartment dividers
- 3 dial combination locks & key access
- Secure cable channels in each compartment
- Large 3" x 3" cable access ports on top and bottom of cabinet
- Cabinet also includes side panels

Best For: Data centers that offer colocation solutions and have a need to maximize floor space.

Price: Starts at $4,400

Contact: (888) 903-7225 | www.racksolutions.com

Uptime Racks ECC13 Air-Conditioned Computer Cabinet

Uptime Racks ECC13 is one of the most efficient air conditioners for small server rooms. The ECC13 cools the space directly in front of IT equipment, rather than cooling down the entire room. Uptime Racks provides primary, supplemental, or back-up cooling that protects expensive equipment from overheating.

- High cooling capacity: 13,000 BTU/hr at 115V
- Cabinet cooling powered by MovinCool
- 32U of available rack space
- Environmental monitoring
- Cold aisle/hot aisle configuration
- Plug-and-play installation

Best For: Small server rooms or hot spots within larger data centers.

Contact: (877) 908-8043 | www.uptimeracks.com

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Black Box ClimateCab™

ClimateCab cabinets from Black Box save energy and money by cooling only the cabinet rather than a whole room or IT center. They feature digitally controlled air-conditioning units that keep equipment cool even with room temperatures up to 130° F. Whether you need to house multiple servers, a PC workstation, or a small amount of rackmount equipment, ClimateCab is the solution to keep everything cool.

- Cool only the cabinet—not the entire room
- NEMA 12 rated for protection against dirt, dust, lint, debris, and splashing liquids
- Full-size cabinets available with 5000-, 8000-, or 12,000-BTU air conditioners, in 120V or 230V
- Choose from server, data, and wallmount models

Best For: Housing network equipment outside the protection of a climate-controlled data center in areas such as factory floors and industrial environments.

Price: Starts at $2,695.95

Contact: (888) 433-5049 | www.blackbox.com/go/ClimateCab

Black Box Elite™ Cold Aisle Containment System

Use the Elite Cold Aisle Containment System from Black Box to increase cooling efficiency in the data center. With this kit, you can shut off the aisle ends to contain cool air. You'll also create a more efficient cold aisle by reducing air recirculation. The system is exceptionally effective at reducing energy costs and increasing cooling capacity.

- Concentrates cool air where it's needed—at the front of equipment
- Reduces energy costs and increases cooling efficiency
- Convenient, professional-looking doors seal cold aisles
- Choose from 42U or 45U high units

Best For: Data centers of any size that need to increase their cooling capacity.

Price: $1,379.00 for a 42U unit

Contact: (888) 433-5049 | www.blackbox.com/go/ColdAisle

Emcor® G-Series Product Line By Crenlo

With a 2,000-pound static load capacity and a wide range of available accessories and modular configuration options, the G-Series provides strength and versatility in an economical package. The G-Series is available in a wide range of sizes, including 19- and 24-inch cabinet widths and four cabinet depths ranging from 26.31 to 36.87 inches. With heights ranging from 30U to 45U, the G-Series provides a versatile solution for storing and protecting electronics in a wide array of applications.

- Available in multiple widths, depths and heights
- Available in dual-bay options
- Wide range of power, cooling and cabling accessories
- Can be configured, modified, or built custom for any application
- Optional tie-down kit to comply with seismic regulations

Best For: Broadcast and audio/video, test and measurement, military and defense, systems integration, security, and a variety of other applications.

Contact: (507) 287-3535 | www.crenlo.com/enclosures

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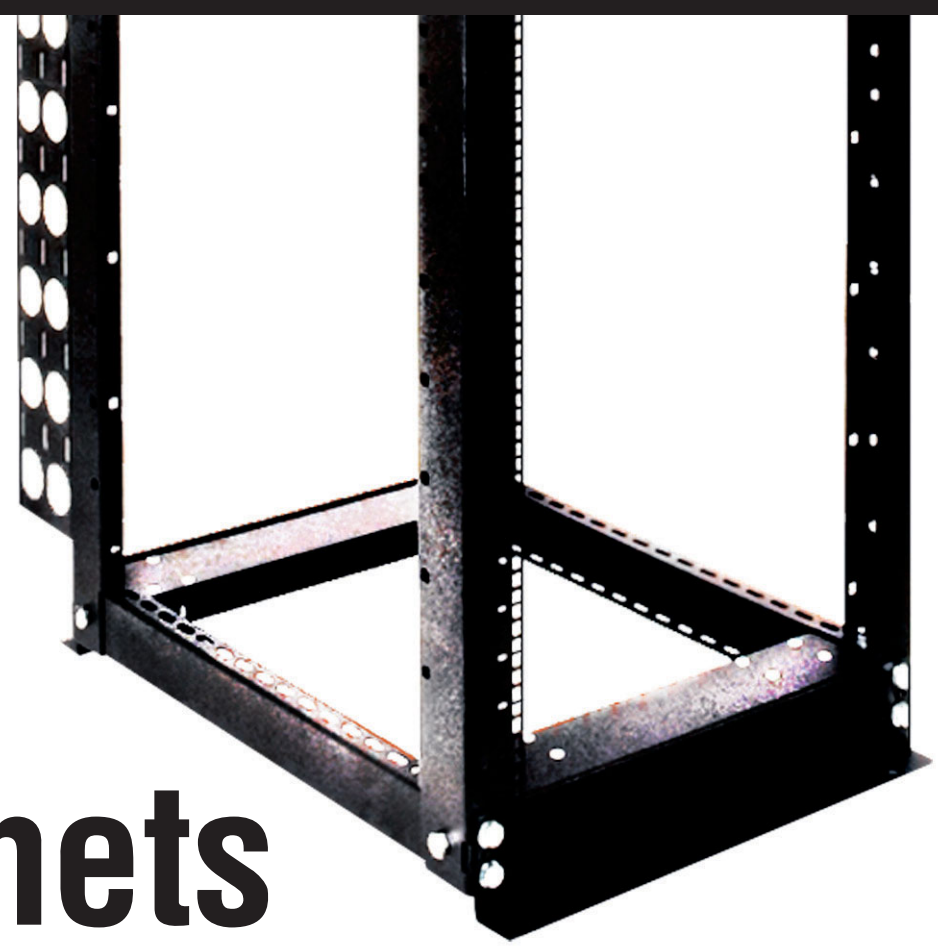
PRODUCT SPOTLIGHT



Buying Tips:

Data Center Racks & Cabinets

Racks and cabinets are built to hold and protect every piece of equipment that runs your data center. Because of that, the decision of which racks and cabinets to purchase shouldn't be hastily made. Instead, you should focus on the features that are most important to your company and ensure they will fulfill your needs for years to come.

✔ Know What's Currently On The Market

The first thing you should do when looking at racks and cabinets is research what's currently on the market. Companies offer full-sized 42U, midsized 26U, and 12U cabinets as well as racks with heights of 30 to 84 inches and widths of 24 to 36 inches.

Eli E. Hertz, CEO and president of Hergo (888/222-7270; www.hergo.com), says you should look for potential add-on items, such as overhead storage compartments, power and cable management solutions, and back and side panels. Different sized racks and cabinets paired with additional solutions can help you design a product that's perfect for your data center.

✔ Pinpoint Your Needs

Once you know what types of products and configurations are available, look at the types of physical features you need for your specific environmental needs.

"Establish what you need the cabinet to do," says Susan Wynne, senior sourcing specialist for Rackmount Solutions (866/207-6631; www.rackmountsolutions.net). "If the equipment is noisy, you may want a sound reduction cabinet. If the environment is dirty, you may need a filtered cabinet. Even the area of the country is important and you may need an air-conditioned or NEBS cabinet."

There are many other considerations you must make, including whether or not you have a sprinkler-based fire suppression system that requires NEMA 12 certified cabinets that keep out moisture, Wynne says. You should also consider built-in security measures, such as locked cages or other alternatives, if there is a lot of traffic in and out of your data center.

✔ Check The Vendor

Hertz says that a cabinet or rack purchase is significant and so the decision of which vendor to buy from is just as important. "You need to make sure that the supplier they have chosen has been in business long enough to have an established reputation in the market," he says.

Hertz says companies should be able to "grill the supplier on what they are actually going to be getting," and the vendor should be able to answer those questions by knowing "the product from nuts to bolts." Think of the vendor as a partner in the purchasing process and make sure it gives you enough information to make the best possible decision.

✔ Get The Right Fit

In most cases, you've already decided which pieces of equipment to buy for your data center before you start shopping for the racks and cabinets to store them in. It's a great opportunity to measure each piece and come up with a mock configuration for how it will fit into the rack or cabinet. "This ensures the cabinet is tall enough, wide enough, and deep enough to handle the longest piece of equipment to be populated into the cabinet," Wynne says.

But don't let internal space be your only focus, because the amount of space the rack or cabinet takes up is equally important. "Make sure the outside dimensions of the cabinet will fit in the designated location," she says. Whether you are purchasing multiple racks and cabinets to fill a brand new data center or buying one to fit into an existing setup, it's important to know every dimension. And make sure you leave adequate space for expansion in the future. If you don't, you could get stuck with a cramped and inefficient data center with no room for evolution. P

Buyers' Checklist

- ✔ Is cable management built in, or does the rack or cabinet leave adequate space to neatly route cables?
- ✔ Does the rack/cabinet provide PDU mounting options?
- ✔ Does the cabinet include PDU mounting brackets?
- ✔ Does the equipment you're mounting require tapped or M6 holes?
- ✔ Will you need to disassemble the rack/cabinet to get it in the room?
- ✔ Is the cabinet lockable to prevent potential security issues?

Key Terms

M6 holes.
Square holes common with rackmount equipment and server cabinets; they can be adjusted to a round hole with a cage nut.

Rackmount units (RMU).
Cabinets and racks are measured in rackmount units, with each RMU, or U, equivalent to 1.75 inches.

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- PCB-Based Reliability
- Reports Volts, Current, Watts, VA
- Break-Before-Make Transfer

Provide Redundancy To Single-Corded Devices With The Ability To Switch Out-Of-Phase Sources In 8 To 15ms.

Providing redundancy on the power-circuit level is critical to maintaining uptime. The ATS Series provides a simple and reliable solution for automatically sensing power loss and seamlessly switching to a backup circuit. BayTech ATS transfer switch line offers a unique approach to performing the transfer by completely severing the connection between the source and load then waiting for the zerocrossing to perform the transfer. This is the driving force behind being able to perform out-of-phase transfers with a low-cost solution. Monitoring Power on the ATS is a unique feature which provides information about:

- Amperage Load
- (Watts) True RMS Power
- Volt-amps
- Voltage
- Internal Temperature

By combining the ATS and the DS-Series, console server alerts on power and transfers can be sent via secure SNMP V3.

Bay Technical Assoc. Inc. 5239 A Avenue Long Beach, MS 39560 Tel: 228-563-7334 Fax: 228-563-7335 sales@baytech.net

PRODUCT SPOTLIGHT

PDUs

Rackmount Solutions Custom Power Offerings

Even with hundreds of standard power and data protection and distribution products available, you may not be able to find a fit for your application. Rackmount Solutions listens to your requirements and then works with you to design and build a solution. Your application drives the design. A multitude of housing profiles, wiring, and receptacle choices are available. All of Rackmount's products are designed and tested to ensure unmatched reliability and quality, and your configurable solution is proudly made in the USA. Tell Rackmount what you need, and they'll provide a quote.

- Metal housing
- Color coded available
- NEMA 5-15P, 5-20P, or L5-30P
- Twist lock available
- Cord length of your choice
- All custom products made from UL listed components
- 25-piece minimum order

Best For: Data centers with specific custom applications.

Contact: (866) 207-6631 | www.rackmountsolutions.net

Rackmount Solutions InfraPower MT-Monitored Rack PDU Series

The InfraPower MT-Monitored Rack PDU series from Rackmount Solutions is designed for mission-critical data center applications. The units offer local and remote RMS current monitoring, a digital RMS amp meter that is easy to read, and a Web-based GUI for real-time management and monitoring. Available in both vertical and horizontal form factors, the PDUs have between two and 24 receptacles and feature a two-year replacement warranty.

- Sends email alerts
- Users can set their own alert parameters
- Supports a range of data center output receptacles
- Can daisy-chain up to 16 intelligent PDUs

Best For: Mission-critical data center hardware monitoring.

Price: Starts at $440

Contact: (866) 207-6631 | www.rackmountsolutions.net

Rackmount Solutions InfraPower MTS-Switched Rack PDU Series

The InfraPower MTS-Switched Rack PDU from Rackmount Solutions is an industrial-grade offering that provides local and remote RMS current monitoring and control. It features a digital RMS ammeter for amperage monitoring, and the Web-based GUI lets users monitor and control the individual receptacle outlets either locally or remotely. Backed by a two-year replacement warranty, the MTS-Switched Rack PDU Series meets or exceeds all international standards for rack-mounted power distribution units and is UL-, UCC-, and CE-certified.

- Accurate, easy-to-read RMS ammeter for local aggregate monitoring
- Web-based GUI management and control
- Email alerts triggered by user-defined parameters
- Supports a daisy-chain connection of up to 16 intelligent PDUs
- 0U (vertical) and 1U or 2U rackmount styles available

Best For: Mission-critical data center hardware monitoring.

Contact: (866) 207-6631 | www.rackmountsolutions.net

Server Technology POPS Switched CWG-24V5 415V CDU

Server Technology's POPS Switched CWG-24V5 415V 3Ph 20/30A Busway 18xC13 & 6xC19 with PIPS combines all of the features of a Smart CDU with the ability to provide power monitoring per inlet/infeed. This power information per infeed replaces branch circuit monitoring devices typically installed in the power distribution panel or remote power panel (RPP) with higher accuracy and lower cost monitoring of each circuit attached to the CDU. Also included is a mixed outlet Cabinet Power Distribution Unit with the network and serial-based power monitoring and alerting capabilities of the Switched Cabinet CDU plus the ability to monitor:

- Current Load (A)
- Voltage (V)
- Power (W)
- Apparent Power (VA)
- Crest Factor
- Power Factor

Best For: Data Centers that want granular, accurate power information.

Contact: (800) 835-1515 | www.servertech.com

Server Technology POPS Switched CWG-48VD/VY CDU

This Sentry POPS/PIPS CDU combines all of the features of a Switched CDU with the ability to provide power monitoring per inlet/infeed. Power information per infeed includes current, voltage, power, apparent power, crest factor, reactance, power factor and accumulated energy. This information replaces branch circuit monitoring devices typically installed in the power distribution panel or remote power panel (RPP) with higher accuracy and lower cost monitoring of each circuit attached to the CDU.

- Per-outlet data includes current load, voltage, power, apparent power, crest factor, and power factor
- Available in 0U, 1U, and 2U form factors
- Best when used in conjunction with SPM v5.0

Best For: Data Centers that want granular, accurate power information.

Contact: (800) 835-1515 | www.servertech.com

PDUs Direct C-24V2-L30MA

PDUs Direct's C-24V2-L30MA is a metered three-phase rack-mountable PDU that lets users load balance using LED load meters. This zero U unit features 12 IEC C13 and 12 IEC C19 outlets, a three-phase IEC 60309 60A in-feed plug, and three integrated local amp meters. This metered rack PDU provides nearly twice the power density of a standard 208V circuit and robust power distribution for your equipment without taking valuable rack space.

- Steel case enclosure
- Mixed C13 and C19 industrial-grade outlets
- High-quality powder coat
- Input current monitor with true RMS reading
- Hardwired IEC 60309 power cord
- 3-phase/60A

Best For: IT managers who need to save space for equipment and ventilation.

Price: $1,045

Contact: (888) 751-7387 | www.pdusdirect.com

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

PDUs Direct CB-12H2-C20

The CB-12H2-C20 from PDUs Direct is an industrial-grade metered rack-mountable 208V PDU with 12 IEC C13 outlets, a twist-lock NEMA L6-30P in-feed plug, and a local amp meter. This unit provides high power density and dependable power distribution for your equipment racks in a 1U form factor. The Metered PDUs include local LED input current monitoring, which lets users precisely measure the amps drawn and observe the impact of new equipment as well as cumulative current draw.

- Steel case enclosure
- Industrial-grade outlets
- High-quality powder coat
- Input current monitoring with true RMS reading
- Hardwired L6-30P power cord
- .208V/30A

Best For: IT managers who need to save space for equipment and ventilation.

Price: $270

Contact: (888) 751-7387 | www.pdusdirect.com

Black Box Metered Vertical PDU

Black Box's Metered Vertical PDU is a space-saving strip with 24 NEMA 5-20R outlets that measures and displays AC current. It mounts to the vertical rails of a cabinet or rack.

- Three-digit LED display shows current draw
- Alarm notifies you when current threshold has been reached
- Includes a 15-foot (4.5m) NEMA L5-20P power cord

Best For: Adding outlets in tight spaces while keeping track of current draw.

Price: $185.95

Contact: (877) 877-2269 | www.blackbox.com

Black Box Outlet-Managed PDUs

The Black Box Outlet-Managed PDU provides complete power control for network devices, including capabilities such as remote and timed individual outlet switching, auto on/off/reboot, load shed switching, and outlet sequencing. It enables power switching for individual network devices or for groups of equipment in an effort to allow data center administrators to save energy by automatically powering down equipment at night or on weekends when it's not being used.

- Monitors equipment power, changes in current levels, circuit breaker status, temperature, and unauthorized access attempts
- Sends alerts by email, text, SNMP, SYSLOG, or audible alarms
- Generates reports with detailed records of current and power consumption
- Can be set to ping equipment at set intervals and reboot if there's no response

Best For: Reducing energy and personnel requirements in data centers.

Contact: (877) 877-2269 | www.blackbox.com

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PRODUCT SPOTLIGHT

Buying Tips:

PDUs

When PDUs began appearing in data centers and networking rooms a couple decades ago, they were little more than pricey power strips. Since then, PDUs have evolved into integral components of a modern power distribution infrastructure, delivering correct voltage and current to multiple outlets. Intelligent PDUs are even capable of measuring current load at the PDU level, sounding user-defined alarms, reporting levels and power cycling remotely, and supporting external temperature and humidity sensors. There's a lot riding on continuous uptime.

✔ Do Your Homework To Ensure The PDU Matches Your Needs

Brett Femrite, director of business development at Rackmount Solutions (866/207-6631; www.rackmountsolutions.net), says you have to do your homework prior to making a PDU purchase. "It is critical that the PDU you select match up with your power consumption needs and server/network equipment," he says.

Femrite recommends making note of the type and quantity of outlets needed and whether you can daisy-chain for added capacity. Although the ability to expand capacity might not be critical now, having the option could save money down the road. Femrite also highlights form factor (vertical/horizontal, rack/wall-mountable, or 0U), the amperage the PDU needs to support, and the type of PDU that best serves the requirements and needs of the data center as other key factors to consider.

✔ Understand The PDU Options

"There are generally three types of PDUs: basic, metered, and switched," Femrite says. "Each type comes with its own set of features."

A basic PDU lacks monitoring and remote administration capabilities but focuses on simple and effective power distribution. The next best option is a metered PDU, which has everything a basic PDU has, but adds a meter that lets users visually track amperage and GUI management software that lets users monitor the aggregate current being drawn on each PDU in real time. Switched PDUs support everything on a metered PDU and add local and remote control capabilities on a per-outlet level. Redundancy is also important, Femrite says. "A dual-circuit PDU provides an added layer of fault tolerance by offering two power inputs," he says.

✔ Account For Anticipated Growth & Increased Needs

One of the biggest mistakes you can make is getting a PDU that isn't as capable as you need it to be now and into the future. "If you don't precisely match up the PDU with your power consumption needs, taking into account anticipated growth/increases, you can wind up having a breaker tripped, which of course can cause a power outage that can be catastrophic," Femrite says.

Other factors that are easy to overlook include finding the right location (which is typically dependent on the form factor), how a switched PDU will be connected to the network, and how far the PDU will be from its power source. "It's much easier to tie up some extra power cord than to move a rack full of equipment," Femrite says. P

Buyers' Checklist

The following tips were provided by Julie Brown, marketing manager at Server Technology (www.servertech.com).

✔ **Do your homework and know the different types of PDUs.** What type of PDU do you need for your data center? Choose from basic, intelligent, metered, or switched PDU options.

✔ **Know your power needs, or consult an expert.** Make sure you're buying the right PDU for the job. You want to make sure that the PDU you buy matches up with your power consumption needs. If you don't know what your needs are, bring in an expert who can help you determine them.

✔ **Look for the best quality.** You want the best quality you can afford for reliability and performance to power your mission-critical equipment.

✔ **Service.** You want a PDU from a company that provides tech support and services after the sale.

Key Terms

PDU.
A power distribution unit is any device that provides electrical power to servers, networking components, storage devices, and other data center equipment.

Intelligent PDU.
An intelligent PDU is any PDU that offers Web-based management, meter power at both the PDU and individual outlet level, and real-time power monitoring.

Metered PDU.
These PDUs can track current draw at the PDU level and display the data locally and often remotely, as well.

Switched PDU.
Users of switched PDUs can remotely switch connected devices on and off; some even afford outlet management technology.

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USB Port Blocker

System administrators can physically prevent users from connecting Pen Drives, MP3 Players and other USB Mass Storage Devices to their computers to copy data, introduce viruses, etc. The USB Port Blocker is a combined 'key' and 'lock' assembly which plugs into the USB port. Simply plug the 'keylock' into the port and release the latch - the lock remains in place! Plug the key back into the lock to remove. Easy!

- Physically blocks access to a USB port
- Consists of 4 locks and 1 key
- 5 different color code versions available: Pink, Green, Blue, Orange, White

USB 2.0 Slimline Active Extension Cable

- 5 meter USB 2.0 Active Extension Repeater Cable
- Plug & Play -special software installation not required
- Compatible with both USB 2.0 and USB 1.1 devices
- Connectors: Type A USB Male to Type A USB Female
- For even greater distances simply connect up to 5 cables in series

FireWire Active Extension Cable

- FireWire Repeater Cable for extending the cable length between FireWire devices over distances greater than the IEEE 1394 specified limit of 4.5m
- Supports IEEE 1394 devices at speeds of up to 400Mbit/sec
- Ideal for use with DV Camcorders, FireWire printers, scanners, digital cameras etc.

Wireless VGA Compact Projector Server

- Allows connection to a projector or monitor via a wireless LAN
- Wireless link coverage up to 100m
- Ideal for use with PowerPoint and other presentation applications
- Connects to the VGA port on your projector

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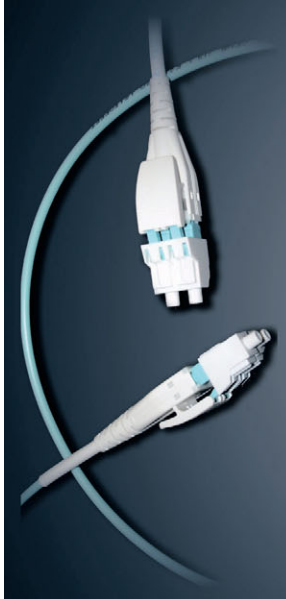

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CHRONIC Server Room Shutdowns CURED By A MovinCool PRESCRIPTION

A single MovinCool CM12 was all Scarborough Mechanical Services needed to prevent another outbreak of server room shutdowns at the University of Louisville Health Care Outpatient Center.

"It's affordable, easy to install and, without an outside condensing unit, has minimal maintenance costs."

To read more about this application story, visit: MovinCool.com/Scarborough

See the top 50 reasons why MovinCool products are the highest quality in the industry, visit MovinCool.com/50Reasons

Plagued by chronic overheating and system shutdown problems in their mission critical server-telecom equipment room, the University of Louisville Health Care Outpatient Center made an urgent "911" call to Scarborough Mechanical Services. The Diagnosis: A re-programmed HVAC system shutting down at night to conserve energy—and triggering disastrous results.

Scarborough's prescription: A self-contained, ceiling-mount MovinCool CM12 programmed to take over whenever the main HVAC system shuts down. At just 15.5" high, it easily fits above any drop ceiling. Requires no external refrigerant lines or outside condenser. Connects to any standard 115V power supply, yet delivers an impressive cooling capacity up to 13,000 Btu/h. According to Scarborough, "The CM12 is perfect for this type of application. It's affordable, easy to install and, without an outside condensing unit, has minimal maintenance costs." From mission critical computer room cooling applications to manufacturing processes and people, MovinCool is the solution.

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PRODUCT SPOTLIGHT

Backup & Disaster Recovery

eProvided Data Recovery

eProvided offers several types of data recovery services for enterprises that have been unable to recover lost data on their own. Whether on a USB or flash drive, hard disk drive, NAND, SSD, or DVD or CD, eProvided will help to recover your lost data or images. Lost data can be recovered in about 95% of the cases eProvided works with, including corrupted files, damaged drives, overwritten data, deleted data, and more.

- Send devices directly to eProvided labs with short turn-around time
- Offers USB device and microchip repair
- Will work with any type of drive
- High success rate with any type of symptom, including corrupted or deleted files, virus, flood, and fire damage

Best For: Enterprises with lost, corrupted, or deleted files that would like to recover such data in a cost-efficient and timely manner.

Contact: (866) 857-5950 | www.eprovided.com

Doyenz rCloud Services

rCloud recovery service from Doyenz protects both physical and virtual assets. rCloud offers 15 minute recovery of VMware ESX environments with virtual failover when disaster strikes. Through the online portal of rCloud you can access server images anytime, anywhere.

- Protect and replicate servers in rCloud
- Recovery for VMware ESX/ESXi environments in the cloud in less than 15 minutes
- Virtual failover in the cloud in minutes instead of hours or days
- With rCloud Virtual Lab, prevent downtime and proactively prepare for disasters before they strike
- Online portal allows you to verify the status of your server backups, agents, and production servers

Best For: Small to midsized enterprises looking for a hands-on approach to data recovery priced for any budget.

Contact: (877) 341-7342 | www.doyenz.com

General System Dynamics Data Manager™ Service

General System Dynamics (GSD) offers the only comprehensive software and services solution for legal holds of backup data for eDiscovery and litigation support. GSD provides audits of backup systems and thorough assessments to ensure complete data protection coverage for corporations, legal service providers, law firms, and consultants. Data Manager™ is the first enterprise class platform to offer comprehensive capabilities of data preservation and legal hold execution for early case assessments, legal hold management, analysis and review, and collection and culling of backup specific data.

- Integrated workflow within a single application at the lowest cost makes GSD's software the perfect compliment to your current case management and legal hold system
- Offers the ability to preserve documents and emails distributed throughout the enterprise's data backup system within the data center

Best For: Corporations, legal service providers and law firms looking to significantly reduce their electronic discovery costs, risk, time and workload.

Contact: (312) 380-6043 | www.gsysd.com

Graham Magnetics

Founded in 1966, Graham Magnetics is a Graham, Texas,-based provider of high-quality, high-performance tape media storage products, including certified backup media, disk backup solutions, and cloud backup storage solutions. The company places an emphasis on providing green solutions for complete data backup, with products and services designed to maximize data center performance and productivity. In addition to backup solutions, it also offers security products such as firewalls and cabling systems for networks.

- Provides long-term physical storage for tapes, hard drives, and hard copy documents
- Cloud backup solutions include hosted business continuity and disaster recovery solutions
- Offers data services such as data recovery, eradication, destruction, and redeployment
- Other solutions include asset recovery, unified threat management, data loss prevention, and VPNs

Best For: Companies looking for a one-stop shop for data backup and recovery with an emphasis on security and environmental friendliness.

Contact: (678) 216-0555 | www.grahammagnetics.com

Idealstor Bantam

The Idealstor Bantam is a removable disk backup system that combines the best of disk and tape by using 2.5-inch SATA disks as backup media, which can then be sent offsite for storage and disaster recovery. The Bantam is priced for SME budgets but has features that meet the needs of larger enterprises, as well. The system features data transfer rates of up to 480MBps and is bundled with iBac Data Protection Software from Idealstor.

- Complete backup system offering up to 1TB of removable disk capacity
- Disk capacities of 320GB, 500GB, 750GB, and 1TB currently available
- Includes iBac 5.0 for native format backup and drag-and-drop restore with data deduplication
- Bantam cartridges are housed in a rugged aluminum frame and are shock-proofed

Best For: Replacing tape backup with a faster, larger, and more reliable backup media.

Contact: (888) 269-7349 | www.idealstor.com

Spectra Logic Midrange T-Series Tape Libraries

Spectra Logic's T200, T380, and T680 LTO tape libraries are designed to help data centers manage unpredictable growth. Built on the company's Tran-Scale architecture, the tape libraries feature interchangeable components that make scaling up easier. With future support of LTO-6 technology and more than 5PB of capacity, the tape libraries also feature free encryption key management; media, drive, and library health monitoring; and partitioning and remote management.

- Management via Web browser for easy operation
- Built-in BlueScale AES 256-bit encryption and key management
- Monitors its own drives, power supplies, controller, and robotics
- Media Lifecycle Management and Certified Media tools detect media errors before they happen
- Provides investment protection with seamless upgrade programs between LTO generations.

Best For: Midrange data centers.

Contact: (800) 833-1132 | www.spectralogic.com

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

TOLIS Group bruAPP™

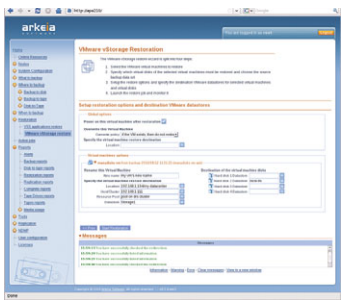
TOLIS Group's bruAPP backup appliance resolves the issues of configuration, installation, and compatibility faced when implementing a networked system backup strategy. Proven reliability, cost-effectiveness, scalability, and client system software agents available for all modern operating systems are delivered without the requirement for heavily experienced system/network administrative personnel. Tightly integrated hardware components and the venerable BRU Server™ software provide backup and restore services independent of any server on the network, including virtualized environments. 1U to 7U models (4U/7U chassis stackable to support growth) are available to provide D2T, D2D, and D2D2T services; up to 132TB of net RAID-6 stage capacity in an 8U chassis, and LTO tape technology options are available: up to 4-drive/96 slot libraries.

- Enterprise-grade client/server backup services
- Windows, Linux, and Mac OS X management consoles
- Plug-and-play installation and intuitive operation
- Totally self-contained using server-grade components

Best For: bruAPP scales from small office - to corporate departments - to the enterprise.

Contact: (480) 505-0488 | www.tolisgroup.com

Arkeia vStorage Virtual Appliance



Arkeia's vStorage Virtual Appliance is a comprehensive backup and recovery tool for VMware vSphere 4 platforms and VMware Infrastructure 3. The virtual appliance includes Arkeia vStorage Backup Agent and can be rapidly deployed in and be used to back up any vSphere hypervisor. Arkeia vStorage Backup Agent enables local and over-the-network backups to disk, tape, or to disk and then tape, and backup sets can be replicated locally or over a WAN.

- Management through Arkeia's Web-based interface
- VMware CBT (Changed Block Training)
- vCenter integration, vApp support, and RDM (Raw Device Mapping)
- Enables full, incremental, and differential backups
- Includes one year of maintenance

Best For: VMware vSphere environments.

Contact: (760) 431-1319 | www.arkeia.com

3t Systems Disaster Recovery & Business Continuity Solutions

3t Systems

3t Systems is a complete IT services company, which includes consulting, managed services and hosting (cloud services). 3t Systems' world-class Disaster Recovery & Business Continuity solutions give you the peace of mind of knowing your business won't lose data during an outage.

3t Systems' Disaster Recovery & Business Continuity Solutions provide you with three distinct advantages over the status quo:

- Reliability with your data stored in a secure facility and available to spin-up during a disaster
- Flexibility with customizable RTOs/RPOs for your backup needs
- Predictability with scheduled failover testing and 24/7 monitoring

Best For: Businesses that require a reliable, predictable, and fully customizable disaster recovery and business continuity plan.

Contact: (303) 858-8800 | www.3tSystems.com

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PRODUCT SPOTLIGHT

Buying Tips:

Backup & Disaster Recovery

"Failing to do backups on a regular basis." It tops a list of 11 common backup mistakes compiled by the Tolis Group. As the Tolis Group states, "doing regular data backups is like brushing your teeth. It's not fun or exciting, but you must do it if you want to keep your data (or your teeth) safe." When choosing a data backup solution, here are some considerations to ponder.

✔ Check For Reliability, Scalability & Ease Of Use

Key features to seek in backup solutions include reliability (best bit error rate), ease of use, scalability, offsite capability (removable media), security (built-in encryption), and the performance needed to meet backup windows and execute recovery strategies, says Kent Dinkel, Spectra Logic senior director of product management (www.spectralogic.com).

Paul Mako, president of RockyNet (www.rockynet.com), agrees, adding that a solution's flexibility to match the enterprise's bandwidth capabilities, including incremental and locally cached backups running during non-business hours, is also important.

Acquiring an affordable solution that doesn't sacrifice quality, Dinkel says, means looking at the big picture. This includes considering power and floor space and other environmental factors, resources needed to operate the solution, upgrade costs, lifespan expectancy, and ease of scalability.

Mako says it's also important to ask how your business might increase profitability and productivity using cloud services along with building out backup strategies. For instance, increasing pipe size, utilizing desktop cloud services, and interconnecting multiple sites via virtual servers and desktops can increase the bottom line, he says. Though not the least expensive option available, he says, this can provide a high return on investment.

Brian Greenberg, CEO of General System Dynamics (www.gsysd.com), believes the best backup solution is one that's business-driven. Beyond taking an inventory of regulatory compliance issues you face, he says, use a BIA (business impact assessment) to spell out how data loss due to disaster of any size will impact the company. A BIA can also help produce an RTO (recovery time objective; how long it will take to recover data) and RPO (recovery point objective; how much data since the last backup you can afford to lose). "Only after that process does it make sense to look at features such as continuous data protection or de-duplication," he says.

✔ Look At A Vendor's Qualifications & Expertise

When sizing up vendors, consider their qualifications and expertise at protecting data, innovation track record, long-term stability, ability to share technical resources, customer and professional services, and multisite and highly redundant solutions. Also ensure 24/7/365 technical support is available, Dinkel says, as backups typically occur during non-business hours. Other tech support considerations include the vendor's local presence, onsite support, response times, spare parts stored onsite, and system monitoring with predictive analytics.

Greenberg says you'll also want to get to know your account executive, "test" the tech support team to ensure they aren't just employees working from a script, and practice restores and recovery scenarios. If considering cloud or other managed service solutions, he says, understand the service level the provider has agreed to in the SLA (the more service required, the more you'll pay) and what the regulatory and business requirements are for protecting data and ensure that's reflected in the SLA.

✔ Watch For These Overlooked Essentials

Creating a recovery plan and testing it is the most overlooked aspect of backup and recovery, Dinkel says. Other areas often overlooked include planning for growth of backup system, power, cooling, and floor space requirements; offsite retention abilities; and encryption and other data protection. Mako says enterprises must also understand how the speed at their location affects their backup. For example, he says, don't expect to back up 1TB of data overnight with 1.5Mbps. P

Buyers' Checklist

- ✔ Find out how much data you must back up and how often.
- ✔ Know your backup budget.
- ✔ Determine whether offsite copies are required.
- ✔ Create a data recovery plan.
- ✔ Forecast data growth five years out.
- ✔ Ensure scalability, flexibility, and tech support when needed.
- ✔ Seek vendor references from similar businesses.

Key Terms

Full backup.
Backs up every file, even if it hasn't changed since the last backup; typically more costly and time consuming.

Incremental backup.
Only backs up files that have changed since the last backup; typically more cost-effective.

Prepare For The Unexpected With Room *Alert*™

No one knows when or how disaster will strike. We just know the potential is always there. So preparation is crucial to minimizing its impact on computers, networks, users & business.

When disasters occur, there are significant costs in areas that go far beyond the simple replacement of damaged hardware. This is because what happens in the data center or other facility effects the entire organization. If disaster strikes your facility, how will it impact business? Who will get the blame? Could it have been prevented? What will it cost?

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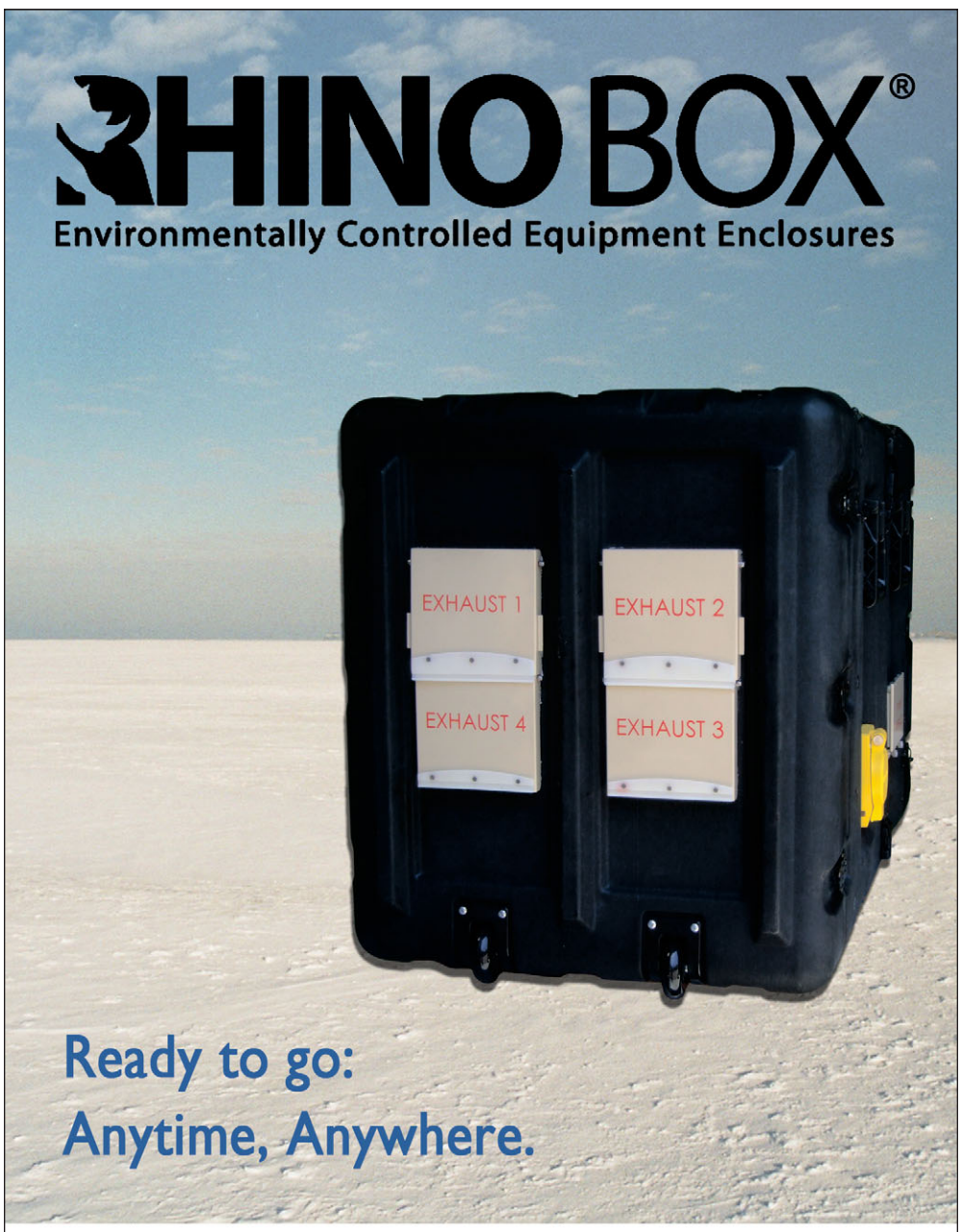

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BUYING TIPS:

Data Center Cleaning Services

A CLEAN DATA CENTER IS CRUCIAL to maintain the performance of your physical infrastructure and the productivity of your workforce, but you can't rely solely on your janitorial staff to get the job done. "Every commercial building needs professional cleaning services," says Jason Roth, director of technical services at Sterile Environment Technologies (www.set3.com).

✔ Check For Experience & Reputation

"Any controlled environment needs controlled environment specialists, not just a professional cleaner," Roth says. "The science used to clean in a data center is unique and cannot be replaced with common janitorial cleaning."

You must make sure the provider has years of training in cleaning data center environments, including floors, ceilings, cases, internal components, and much more.

Cleaning companies should follow ISO 14644 standards, have experience cleaning ISO class 8 environments, and know how to address airborne contamination and particulate migration. In addition, cleaning service providers must have "strong adherence to consistent, safe, and error-free processes; a proven reputation for attention to detail and demonstrated competency; and impeccable client references," according to Scott Price, owner of Square Care (www.squarecare.com).

✔ Know Whether Your Provider Conducts Employee Background Checks

The cleaning service should have "employees that are security clearance and background checked, drug tested at least twice a year, and have a tenure measured in several years, not weeks or months," Price says. An established cleaning team with and a well-honed set of procedures is an absolute must.

The cleaning service should also be able to provide a detailed list of what it cleans and how thorough it will be. For instance, it should be adept and experienced with cleaning "subfloor plenum, top of access floors, VCT strip and non-conductive coating, ceiling plenum, exterior cabinets, and equipment interiors," Roth says.

✔ Understand Your Costs

Cost for cleaning varies depending on what a provider offers as well as its reputation. "Depending on the thoroughness of the work and the size of the facility and the type of floor structure, including depth under floor, we have found the rates for your scheduled cleaning program will vary somewhere between $.40 and $1.75 per square foot," says Price. But don't let price fool you, because some companies will overcharge for the services they provide. Ask for a detailed service agreement that guarantees you will get what you pay for.

✔ Set A Cleaning Schedule

Some parts of your data center will need to be cleaned annually, while others will require quarterly or biannual cleanings. Create a cleaning schedule for the building itself as well as the equipment. And stick to the plan.

Between cleanings, institute policies that limit the access employees have to certain areas of the data center as well as what they are allowed to bring into the room itself. If you can get your employees to treat the data center as a sterile environment and decrease the amount of foreign contaminants, it will make the cleaning crew's job easier and potentially lower your costs. P

BUYERS' CHECKLIST

- ✔ Get a detailed scope of work.
- ✔ Require that employees be background-checked and drug-screened.
- ✔ Check the work in progress periodically.
- ✔ Limit what types of liquids and/or chemicals will be allowed in the data center.

KEY TERMS

Airborne contamination.
Gaseous and particulate contamination that can lead to equipment failure; often gauged by particulate sampling.

ISO 14644-1.
An international standard for cleanrooms and controlled environments.

Particulate migration.
The movement of contaminants from one sector or piece of equipment to another, often as a result of the contaminant changing form as it's crushed and spread.

Plenum.
An enclosed space (often beneath floors or in ceilings) used for HVAC, cabling, etc.

SIX QUICK TIPS

Cooling Considerations For Summer

Keep Your Data Center Cool While The Temperature Is At Its Hottest

Summer is known for its often intense heat, and while it's a great opportunity for most people to hit the pool or take a trip to the beach, data centers have a lot to worry about. The added degrees outside can lead to rising temperatures inside the data center, which means cooling will be more important than ever to prevent overheating equipment and avoid potential downtime.

"The summer months are more taxing on the cooling system," says Jim Fink, CTO at Upsite Technologies (888/982-7800; www.upsite.com). "If cooling systems are at or near capacity in the winter, they may be overloaded in the summer."

A failing cooling system can create a domino effect that could permanently damage major pieces of equipment in your data center and impact your operations on a large scale. But there are measures you can take ahead of time to prepare for summer or even quickly implement in the middle of the summer when the heat reaches its peak.

✔ Prepare Well Ahead Of Time

Doing your due diligence is a common starting point for addressing most data center-related issues, and it's no different with summer cooling.

Jim Magallanes, engineering director at Computer Room Uptime (877/908-8043; www.uptimeracks.com), says that companies should schedule a preventative maintenance appointment with a local air conditioning technician to ensure that the dedicated cooling system is in good working order. But you also have to ensure that this system will be able to handle the rapid changes in temperature that can occur during the summer. "Verifying the proper refrigeration charge within the system will keep internal temperatures and pressures within the system at appropriate levels," Magallanes says.

Magallanes also stresses that it's extremely important to continue regular maintenance throughout the summer. "The simple task of replacing air filters will improve the overall airflow and allow the CRAC to run more smoothly," he says. The more planning you can do upfront to prepare your data center for the summer, the better off you'll be when the temperatures get to as high as three digits.

✔ Improve Air Circulation Throughout The Room

Not all changes to your cooling approach will require massive adjustments or expensive purchases. "The first step is to ensure proper air circulation within the cabinets, making sure that you have filler panels covering any open spaces within the cabinets and distributing your equipment within the cabinets to minimize hot spots," says Laura Viars, senior sourcing specialist at Rackmount Solutions (866/207-6631; www.rackmountsolutions.net). For companies using large dedicated cooling systems, Viars recommends using spot coolers or relocating your most critical systems to the coolest area within your cabinets.

Air circulation is important both inside cabinets and outside in the aisles, but you should also consider utilizing under-floor space. If you have a raised floor in your data center, you can use the space underneath to generate cool air and feed it up into the data center. This can lessen the need for your dedicated cooling system to run at its maximum level throughout the summer with the added benefit of lowering your power consumption.

✔ Add Portable Air Conditioning Units

Your dedicated cooling system may be doing its job maintaining the overall temperature of the room, but it's not uncommon to need individual cooling solutions for certain pieces of equipment. For instance, one server in your data center may be more efficient than another and is adequately cooled by the room's air conditioner. But you may also have servers used by heavily demanding systems or applications that just naturally run hotter than other pieces of equipment. Situations such as these don't necessarily require a full system overhaul, but rather a smaller investment in portable air conditioning units that can be used when necessary and stored in an equipment closet during cooler seasons.

"With portable air conditioning units, they can be put in standby mode and come on any time the room rises above the optimal temperature," says Mike Paulson, president of AmeriCool (800/680-0725; www.americoolinc.com). "In many buildings that switch to heating in the winter, the data center will need a separate 24-hour source of cooling. Portable cooling can provide a cost-effective solution for this."

✔ Have A Backup Plan For Emergencies

If there is one inevitable thing in the business world in addition to operating costs and energy bills, it's that equipment is going to break down at some point and you have to be fully prepared when it happens.

"Due to increased demand on air conditioning contractors in the summer, it can take longer to fix or repair due to high service volume," Paulson says. "Companies should have a backup plan in place ahead of time, whether it is their own fleet of portable air conditioners that can be used or a plan with their local portable cooling specialists for the use of rental units."

In addition to purchased or rented portable air conditioning units, Viars recommends looking into redundant cooling solutions, which can kick on in case of failure somewhere else in the data center.

It's a good idea to have one of these plans in place regardless of the season, because you never know when one of your cooling solutions could go out. But specifically for the summer, you should have a plan of attack in place that will let you beef up your cooling measures in certain months and then tone them down when less cooling is needed. With this approach, you can save money on large-scale equipment investments and still get the necessary level of cooling. P

✔ Maintain Hot Aisle/Cold Aisle Airflow

Regardless of the season, it's important to efficiently use your available space for improved cooling. You can install fans and portable cooling units, but if the airflow between and within the equipment isn't routed correctly, it's nearly impossible to get the level of cooling you require.

"The most productive action a data center, large or small, can do is to maintain a cold aisle/hot aisle airflow pattern," says Jim Magallanes, engineering director at Computer Room Uptime (877/908-8043; www.uptimeracks.com). "This will keep the front of the cabinet cold were the servers need it the most, and the rear of the cabinets warm to help keep your air conditioner running efficiently."

✔ Some Cost-Cutting Considerations

Laura Viars, senior sourcing specialist at Rackmount Solutions (866/207-6631; www.rackmountsolutions.net), says that the unfortunate fact about the summer is that data centers can expect an increase in energy costs, regardless of how efficient cooling is. However, she offers a few ideas companies can easily use to improve cooling during the summer. "A simple step that can be taken is just to ensure that any equipment which is not currently being utilized is not running and generating heat," Viars says. "Turn off the lights when the room isn't being occupied. This can save you from 1% to 3% of electric and heat load."

BONUS TIPS:

✔ Check your outdoor cooling equipment.

"Perform maintenance and clean and inspect all outdoor heat rejection equipment," says Jim Fink, CTO at Upsite Technologies (888/982-7800; www.upsite.com). "Condenser and fluid cooler coils often become packed with leaves, dust, or other organic material that can drastically decrease performance."

✔ Make sure your generator is operational.

"Blackouts are common in the summer due to power grid limits being reached on hot days, lightning, and hurricane season," Fink says. "If the generator isn't up for the task of carrying the cooling system, the data center may fail even before UPS batteries run out."

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SIX QUICK TIPS

Ensure Regulatory Compliance

Improve Your Understanding & Enforcement Of Important Regulations

Regulatory compliance is a hot topic for many companies and data centers, but it may not always be obvious why it is so important.

"I have seen banks running their business without a firewall, connected to the Internet with a router and nothing more," says Pierluigi Stella, CTO at Network Box USA (www.networkboxusa.com). "These companies have customers' financial data on their network, which can be exploited by hackers and it can both destroy the company and ruin the customer's life."

According to Stella, regulatory compliance is necessary simply because "many people don't comply unless someone forces them to." But regulations aren't meant to be difficult or a burden to business functions. Instead, they should be viewed as best practices for companies, as regulations can help prevent outside access to internal data and important customer information. Here are some tips to ensure your company's regulatory compliance and help keep your company and its data safe.

✔ Use Security Measures To Improve Compliance

Before you even consider regulations, take a long look at your company's security practices. Most regulations are designed to protect data in some way, so if your company is properly protecting its sensitive information, then you're already well on your way toward regulatory compliance.

"The cost of security may seem steep, but the cost of an attack will be much higher and as high as compromising the sheer existence of the company," Stella says. "Compliance is designed to ensure data protection, to ensure your customer data is safe. Security pursues the safety of much more than that. It is important to pursue security, not just compliance."

✔ Know The Most Common Regulations

To ensure your company is complying with regulations, you must first know and understand them. Three of the most common business regulations are HIPAA, which relates to personal health information; PCI-DSS, which involves credit and debit card information; and Sarbanes-Oxley, or Sarbox, which is a set of standards created to monitor publicly traded companies. These regulations are in place to prevent companies from losing or providing outside access to sensitive data and to discourage fraud and other illegal activities.

Most companies, regardless of whether they're in a health-related industry, must deal with personal health records for employees or patients. And HIPAA is simply in place to ensure that companies comply with regulations regarding administrative, physical, and technical safeguards to limit access to and protect data, according to Kevin Flynn, senior product manager at Fortinet (www.fortinet.com). PCI-DSS is similar to HIPAA, but instead of health records, it deals with financial information and is designed to secure credit card data and protect the integrity of the data and security of the network, Flynn says.

Sarbox was designed to create and enforce security controls and policies and documenting and auditing policies for publicly traded companies, according to Flynn. And it not only protects the company itself and its employees, but also investors in the company, from potentially fraudulent activities.

✔ Find Resources To Determine Applicable Regulations

If you are unsure which regulations your company is required to follow, then you could start by visiting the official websites of a specific regulation to get a better understanding of whether it applies to your business. But there are still some regulations that might not be easily found with a simple Web search, so you may need to seek the advice of an expert.

"The best advice is to meet with your organization's legal department or outside counsel and develop a strategy to meet any and all regulatory requirements that your organization must face," Flynn says. "The regulatory and government entities that create and enforce these standards post a great deal of information on the Internet that can provide detailed guidance."

And once your internal legal team or third-party expert discovers applicable regulations, you should educate managers, employees, and anyone else related to the company that may be affected by compliance or non-compliance. An easy way to ensure regulatory compliance is to make sure everyone understands the consequences and potential monetary penalties of non-compliance.

✔ Go Above & Beyond The Minimum Requirements

Knowing and understanding important regulations related to your specific company and industry is a great start, but simply meeting the minimum requirements of those regulations may not be enough. "Companies should not look to be just compliant, but should understand the underlying reasons for compliance and try to do better than the minimum required, to ensure true strong security posture for their data and their network," Stella says.

It's important to read between the lines with regulations and find ways for your company to improve upon them. If your company's internal rules, goals, and policies go above and beyond the regulations themselves, you will not only ensure compliance but also have an insurance policy in place that should help you prevent possible problems in the future. P

✔ Improve Security Management

If the best way to ensure compliance is to already have strong security measures in place, then the best way to improve that security is through centrally located and easy to use management. "Insist on single-pane-of-glass management console for the various technologies required to help you meet your regulatory requirements," says Kevin Flynn, senior product manager at Fortinet (www.fortinet.com). "Too many organizations have too many different devices, which create difficulties in building effective policies and auditing the effectiveness of those policies across the organization. Look to see how you can consolidate your security technologies into one device for a more unified approach."

✔ Test Your Compliance

A good way to prevent potential fees related to regulations is to frequently check for compliance. And if for some reason your company is ordered to have its compliance officially checked, you should invest in the services of a third-party compliance testing agency. "If you are subject to official examination, hire someone to test your compliance and audit you before the exam," says Pierluigi Stella, CTO at Network Box USA (www.networkboxusa.com). "Your board will be pleased and your carrier will benefit from it. On the other hand, not passing the exam may be harmful to your carrier. Compliance usually stands as a board responsibility, but in the end the one who will pay the consequences of non-compliance is the IT department."

BONUS TIPS:

The following tips were provided by Kevin Flynn, senior product manager at Fortinet (www.fortinet.com):

✔ Enforce internal security policies.

Developing a strong security policy and enforcing that policy will go a long way toward achieving the appropriate level of regulatory compliance. You can then use the regulations as guidance to modify your policies and practices. Don't just try to meet the regulations, as the threat landscape changes faster than the regulations can keep up.

✔ Perform internal company compliance audits.

Conduct regular audits of your security infrastructure and read the reports that your security technology can produce. Today's security devices generate a great deal of actionable information, but it's only of use if you read the reports and take appropriate action as necessary.

SIX QUICK TIPS

Effective Communication

Buy A Unified Communications Solution That Matches Your Needs

The task of acquiring a unified communications, or UC, system suitable for your business can be a daunting one. The good news is that there's plenty of good news related to UC these days. Beyond the obvious communication, collaboration, mobility, productivity, and financial benefits that UC can offer enterprises, there are financial benefits to be had from the growing number of UC vendors popping up to vie for your business.

According to Robert Arnold, Frost & Sullivan senior industry analyst for unified communications and collaboration, this increased competition means customers have many options from an extremely broad selection of solutions and are well-positioned to take advantage of numerous incentives and increasingly friendly pricing. With this to look forward to, consider the following tips for buying a UC system.

✔ Prioritize Your Needs

Any search for a UC system should begin with an in-depth, extensive analysis of exactly what UC features the enterprise needs, both to satisfy the majority of the enterprise's users and for employees within specific departments and positions. Arnold says IT should also prioritize and deploy UC solutions that specifically address "known pain points that deliver tangible benefits to high-value employees and that support operational or performance improvement for the greatest number of employees."

For enterprises that have limited internal support resources, Arnold recommends looking for UC designs that are easy to install, manage, and maintain. "Hosted or cloud-based UC services can also be employed to outsource complexity and provide predictable recurring costs," he says.

Other cornerstones of a UC solution, he says, include rich presence and a fully integrated client. "Rich presence enables users to connect with colleagues at the right time via the right communication mode (IM, voice, or video), which provides the contextual capabilities that can make interactions more productive." A unified client, whether accessed via desktop computer, Web browser, or mobile device, "makes the full range of UC applications (IM/presence, call handling, VM/UM, conferencing, video, etc.) readily available to users, allowing them to choose the best channel for their current task and to seamlessly and dynamically escalate or switch media types as required," Arnold says.

✔ Think Beyond Dial Tone

Although there are many mindsets IT can take when deciding the UC implementation best for its enterprise, Mike Johnson, practice director for unified computing at Logicalis (www.us.logicalis.com), says that thinking beyond the dial tone is best. "Yes, a phone must provide it, but it can provide so much more if the technologies available are designed and implemented properly and with their business needs in mind," he says. A UC solution offering only dial tone, call control, and voice and email messaging isn't going to serve the needs of a technically savvy or mobile enterprise workforce, he says. Instead, the solution "must also accommodate mobility with single-number reach, Web conferencing with video, and IM with presence."

Overall, IT should consider the smartphone technology many of their employees carry in their pockets every day "as the standard by which all in-house solutions will be measured," Johnson says. Additionally, IT should analyze how various UC features can help the enterprise meet its business-related goals. "An assessment of the current state of UC systems vs. the vision can be performed at a high level in presales engagements or in a deep dive via budgeted consultative engagement," he says.

✔ Build On What You Have

When budgeting for a UC solution, factor in current infrastructure that you can integrate into a broader UC implementation, including PBX, messaging, email, and conferencing systems. Doing so will help reduce upfront costs or "premises-based or hybrid CPE [customer premises equipment]/cloud investments," Arnold says. He adds that "software licensing has become much more flexible and granular, enabling customers to more cost-effectively match a myriad of capabilities to the needs of individual users." For example, deskbound knowledge workers, executives, road warriors, and teleworkers have widely varying requirements, he says, but "customers can save as much as 30 to 40% per user by contracting for application bundles that provide the appropriate features for each user type compared to a la carte application pricing. This licensing structure is becoming increasingly pervasive with premises-based as well as hosted/cloud UC solutions."

Johnson says that in a consumption-based model, enterprises should devote an average of $40 per month per user for a robust UC feature set. Key cost-influencing factors, he says, include whether the backend solution is on-premises or hosted, whether the enterprise's network is IP voice-ready, what type of telecommunications circuits are used and who provides them, and whether the solution is monitored and managed 24/7/365. "Lesser solutions can be had that do offer the bare minimum IPT components for significantly under that $40 average cost, but most dynamic and technically savvy workforces would be underserved by those solutions," he says.

✔ Define Your Terms

A common thread through any definition of UC is that it helps overcome time and distance barriers, but as Arnold says, "UC means many different things to many different people." Rather than focus on definitions, he advises that IT "should focus on building solutions that can closely satisfy the requirements for their industry, user base, and local business environment."

As for ROI, Arnold says, "Aside from the well-known operational benefits offered by IP-based solutions, user adoption and utilization are key factors in driving ROI." Thus, select solutions that use familiar user interfaces, are easy to use, and deliver a quality user experience to ensure employees take full advantage of the solutions you roll out.

Johnson says that when deciding on a UC solution, consider that "the most eloquent solution will be the one that saves your employees time, saves your company money, simplifies your environment, and adds value. Investing some time in a focused UC analysis with a trusted partner will provide that end result." P

✔ Ease Employees Into UC

Over time, employees tend to grow accustomed to using certain tools and are hesitant to give them up when forced to. Jim Dossias, Cisco practice director at Logicalis (www.us.logicalis.com), suggests that instead of forcing a UC solution on users all at once, companies should select "in-office champions" from various business units to use and promote the technology before rolling it out company-wide. Additionally, Dossias suggests advertising the system's best features, using innovative training methods available in different formats, and rolling out the basics first so employees will be hungry for more.

✔ Get Into Detail With Your RFP

Robert Arnold, Frost & Sullivan senior industry analyst for unified communications and collaboration, advises businesses to create specific, detailed requests for proposals. "The most successful UC deployments are those that are tailored for each individual account; one size does not fit all," he says. Additionally, demand multiple references from the vendor of implementations similar to what you're considering and "evaluate not only the technology but also provider service and support."

BONUS TIPS:

✔ Think for tomorrow.

"Deploy for today but think longer-term," says Robert Arnold, Frost & Sullivan senior industry analyst for unified communications and collaboration. IT should investigate UC solutions that enable the enterprise to migrate and adopt new capabilities at its own pace, "both today and over time as their requirements change."

✔ Use a TCO perspective.

According to Mike Johnson, practice director for unified computing at Logicalis (www.us.logicalis.com), although many ROI models are available, the TCO perspective is more important. "To understand if a UC solution is right for your business, you must consider the day-to-day support needs of the workforce and the requirement to provide reliable advanced UC features without investing in staff or training," he says.

HOW TO

Stop Server Downtime Before It Occurs

A Few Simple Steps Can Help Keep Servers Performing At Their Best & Prevent Costly Outages

Key Points

- Maintaining a clean environment with the right temperature and humidity levels can help protect your servers.
- Schedule preventive maintenance on your servers once or twice a year and use a monitoring solution to spot problems that occur between check-ups.
- Make sure employees know how and when to contact support for problems with servers.

Everyone who owns a car knows that changing the oil and replacing the tires on a regular basis will help the vehicle run better and last longer, protecting your investment. In a similar way, taking a few preventive steps can also help your data center servers run better and last longer. Even more importantly, these activities can help prevent server downtime, which in some cases can quickly lead to thousands or even millions of dollars in losses.

To keep your servers in tip-top condition, you need to maintain the right environment, take a proactive approach to maintenance and monitoring, and develop a plan for what to do when a server does fail.

Maintain The Right Environment

Most large data centers have sophisticated equipment to monitor the physical conditions in the facility, but many smaller firms have server rooms that aren't at the correct temperature or humidity levels or aren't as clean as they should be. Joe Guenther, marketing associate at TERiX Computer Service (www.terix.com), notes, "Systems may still operate in too-hot, too-wet, too-dusty environments, but they absolutely will not deliver the life span you paid for and will be more prone to amber conditions and failure than if they were operated within recommended environmental conditions."

Mark Gonsalves, data center services division manager for Controlled Contamination Services (www.cleanroomcleaning.com), says that data centers should set up a quarterly cleaning schedule and clean the underfloor at least annually. "It operates better cleaner," he says, adding that having a clean environment could mean not having to replace expensive equipment. He says that some manufacturers will void hardware warranties if your data center is particularly dirty.

Be Proactive

Many other server problems can be avoided or mitigated with preventive maintenance and appropriate monitoring software. "You catch problems before they happen," says Chad Peters, product support manager for SEI Service (www.seiservice.com).

Preventive maintenance has three key pieces: examining the error logs, checking for firmware or software updates, and physically inspecting the room. Peters says that his company checks error logs once or twice a year. "Do we have a drive that's starting to log errors? Do we have a fan that's not spinning at the right RPMs? Do we have a fiber card that's starting to get some problems on it, some errors to log? If so, then we can proactively change before that component goes down," he explains.

When you check error logs, it's also a good time to double-check the firmware and software on your servers to make sure you haven't missed any important updates. "Get a clear picture of what systems you have and what patch versions of the OS are running on it," advises Larry Quinn, TERiX's director of sales and marketing. "Skimping on asset and patch management is a short-term savings tactic that guarantees long-term expense."

Preventive maintenance should also include a physical inspection of your facility to make sure all cables are seated properly, that airflow management devices are still in place, and that the room is as clean as it should be.

In between scheduled preventive maintenance sessions, you should use a monitoring solution to alert you when problems begin to occur with your servers. A wide variety of solutions that vary in complexity and price are available, so you'll need to do some research to find the best solution for your needs.

Have A Support Plan

Remember that problems will happen. You can help limit the amount of downtime that results from any server outages by creating a disaster recovery plan and training employees on how and when to contact support.

"Make sure that the path to support is plain and easy for every IT employee to initiate," says Christiana Johnson, marketing associate at TERiX. "This may include keeping an updated hard copy of all maintenance contacts and contact numbers (in case your maintenance issue includes a power outage or disaster management event) with clear instructions as to the appropriate party to contact for a given platform, brand name, or OEM product."

Whether your support comes directly from the OEM or from a third party, contacting them right away will help you get your servers up and running again as quickly as possible. P

Top Tips

✔ **Prevent accidents.** Paying attention to the little things can help minimize the number and severity of accidents. Staff should take steps to avoid static discharge and should only handle components with clean hands. In addition, "Never hold screws or other small items over open cases where they could accidentally drop in when doing maintenance tasks," advises Christiana Johnson, marketing associate at TERiX (www.terix.com).

✔ **Maintain a consistent electrical supply.** "Power spikes and dips are taxing on server systems and, if extreme, the dips can cause erratic performance and the spikes can cause permanent damage to power supplies and internal systems," says Joe Guenther, marketing associate at TERiX. Make sure you have UPSes at a minimum and dedicated electrical architecture if possible.

✔ **Keep it clean.** Servers and other electronic equipment will always attract a certain amount of dust, but you can reduce the amount of dust. "Best practices include limiting the amount of access to the room or the data center and not opening up cardboard or other boxes or uncrating items in there," says Mark Gonsalves, data center services division manager for Controlled Contamination Services (www.cleanroomcleaning.com). Take special care to clean up after any construction. Because of the volume of airflow in a data center, sheetrock particles often become airborne and may corrode components.

✔ **Retire servers when they become inefficient.** Just because you can extend the life of a server with good maintenance doesn't mean that you should keep using that server forever. "There is a real possibility that you can keep a server running optimally far beyond its actual usefulness to the company," says Monica Bower, marketing manager at TERiX. If it's been a number of years since a piece of hardware was replaced, you may actually save money by retiring it and upgrading to newer, more efficient equipment.

Action Plan

- Maintain a dust-free environment with the correct temperature and humidity for your servers.
- Set up a preventive maintenance and cleaning schedule.
- Install a monitoring solution that will alert you when problems occur.
- Train your employees in best practices and make sure they know when and how to call in support.

Get Started

In order to keep your servers in good shape, you'll need a monitoring solution—either from the OEM or a third-party solution. Good monitoring software will alert you before a potential problem has become severe so that you can plan to change out components before an outage occurs. You may also want to use an asset management solution that can help you keep track of what hardware you have and what firmware updates and patches have been installed.

You should have compressed air, a HEPA vacuum, and microtowels on hand for keeping your server clean. Any staff involved in physical maintenance will also need screwdrivers, other hand tools, and antistatic devices.

HOW TO

Improve Your Data Center & Server Security

Build A Hardware & Software Security Approach

Because every business is responsible for storing data and then using that data to help customers and increase profits, server security, as well as overall data center security, continue to be one of the main focuses of enterprises and data centers.

"The availability of information is key to everything that we do in the IT industry," says Jeff Clark, general manager of Lindy USA (888/865-4639; www.lindy-usa.com). "Leaving your data center unsecure is much like riding a motorcycle without a helmet."

There are many ways to secure your servers and your data center from a hardware and software point of view. We'll show you why you should use a combination of multiple solutions to fully protect your data center from data loss, theft, and physical damage.

Know The Basics Of Server Security

Securing your operating system and applications are two of the three main components to server security, according to Pierluigi Stella, CTO at Network Box USA (www.networkboxusa.com). Although operating systems and applications often have vulnerabilities once they are available, vendors will usually release patches that will help fill the inherent security holes. But these patches are no help to companies and data centers unless they download them on a regular basis and make sure the system is always up to date.

The third component to consider is the security of the data itself. And while Stella says this can be the cause of many headaches for administrators, it can't be ignored. Firewalls, network access control, data encryption, and other solutions must be used to prevent outside access to your network and internal systems, and you should also put measures in place that will protect data in case there is an attack. It's important to have a layered approach to server security so viruses and other threats can be caught on any given level before gaining access to sensitive data.

Prevent Unnecessary Physical Access

When it comes to physically securing your data center and the servers and other equipment within it, the best place to start is with employee access. You should determine which employees need access to the servers and when they should be allowed to access them. By reducing the number of people with access to servers, you can limit the potential opportunities for equipment to be damaged or compromised.

"To put it simply, put a lock on the door and only give the key to who you want to let in," Clark says. "You need to monitor the entrances and exits to see who comes in and who goes out. You need to look at how people interact with their servers, whether it is with keyboards, mice, [or] USB ports, to establish methods and define what they are allowed to do to prevent abuse."

Consider Modular Server Vaults

For some companies or agencies, the data stored on or passing through servers is so sensitive that advanced physical security measures must be put in place to protect it. But that doesn't mean that a less-sensitive data center can't also benefit from the additional security. Modular server vaults not only protect servers from unwanted access, but from physical damage due to environmental conditions or other factors, as well. In fact, server vaults are often used by federal agencies or on foreign military sites where extensive physical damage is a distinct possibility.

What makes modular server vaults particularly helpful to data centers in virtually any industry is how they are built to grow alongside and adapt to the changing needs of almost any company. "A modular server vault is the opposite of computer hardware because it is never obsolete," says Hugh Smith, owner of FIRELOCK Modular Vaults (www.firelock.com). "It can be made bigger, smaller, or even change shape, and the modular server vault can be outfitted with any new technology over time."

Understand Each Department's Responsibility

Within a company, there are multiple departments, and each one has its own responsibility when it comes to server security. "Data centers are not involved with software security; they are responsible for physically securing the hardware, including servers," says Von Williams, director of security and governance at Logicalis (www.us.logicalis.com). "The security for the application running on the server would be the responsibility of the data owner and application developers. System administrators, or data custodians, are responsible for applying the security controls on the server that have been defined by the data owners."

If each department is working separately to manage its own security solutions, then the overall company will benefit from the measures in place. But if there is any fragmentation within or between business segments, there could be unforeseen security vulnerabilities that may not be caught in time to prevent a simple attack or a large-scale disaster. P

Key Points

- Understand how important it is to protect your data from every possible angle and know the basic server security measures that should be put in place to protect that data.
- Put physical security measures in place that both prevent access to areas of the data center as well as the physical infrastructure itself, including modular server vaults.
- Look at server security from a hardware and software standpoint. A solid combination of physical and virtual solutions will ensure your sensitive data is secure for years to come.

Action Plan

The following action plan was provided by Jeff Clark, general manager at Lindy USA (888/865-4639; www.lindy-usa.com).

- Identify what is most important when it comes to data protection. This can be different from one organization to another. One company may want to protect customer credit card records, while another is concerned about the introduction of viruses into its network environment.
- Analyze the physical environment to determine which employees need physical access to areas within your data center or specific pieces of equipment. This will help you restrict physical access to infrastructure and help you decide whether you should invest in more security measures, such as locking and monitoring systems, blocking points, or installing fingerprint or eye scanners for particularly high-value sections of your data center.
- Look at what types of software and hardware can apply to your environment to help reduce unwanted access through the network, including both software- and hardware-based firewall systems and recognition systems. A combined virtual and physical approach will help secure both your sensitive data and the actual equipment where that data is stored.

Get Started

To know the level of protection your servers require, you must first understand how they are used. "Server security is extremely important based on the function the server plays within the company," says Von Williams, director of security and governance at Logicalis (www.us.logicalis.com). "For instance, servers containing company financial or intellectual property should have the highest security controls in place to protect the data and prevent unauthorized employees from accessing that data."

Top Tips

The following tips were provided by Hugh Smith, owner of FIRELOCK Modular Vaults (www.firelock.com).

- ✔ Start off with security when designing your data center. IT managers will spend their entire budget on speed and density, while security is ignored.
- ✔ Beware of consultants with ties to the hardware industry. If they start discussing software and firewalls as just more computer equipment, they don't know the whole industry.
- ✔ Understand what you're protecting and determine what the real cost of a security infiltration would be.
- ✔ Even if you can't afford a full-scale server vault environment, you can at least move your backup tapes and archives to a safe place for little or no cost differential by researching the best providers in your market.

HOW TO

Put DCIM To Use

Gain Granular Insight & Control Over Your Assets & Physical Infrastructure

DCIM, or data center infrastructure management, has recently gained considerable momentum. These tools help monitor, manage, automate, optimize, and provide insight into capacity and planning to improve the energy consumption and efficiency of data center and enterprise physical infrastructures. Plus, the solutions provide a real-time, holistic view into power, cooling, and other IT and physical assets with documentation, control, visibility, and metrics tools all in one solution.

"The momentum is for real. The DCIM market has been through its various phases of maturity. From this point on, the true players in the market will be enhancing their offerings with upgrades and now offering a mature product," says Bill Montgomery, founder of Premier Solutions (www.premiersolutionsco.com). The industry has identified DCIM as a need, he says, because DCIM solutions have the ability to reduce OPEX by 20% or more.

The Benefits

DCIM solutions can replace spreadsheets, paper records, CAD drawings, and similar tools traditionally used to track assets. Instead, enterprises gain real-time, in-depth views into physical and IT assets and can use the related data to develop what-if scenarios for capacity planning. For example, a DCIM solution can manage, monitor, and assist in identifying non-performing assets, such as servers, to deliver power scenarios, an instrumental tool in asset consolidation, Montgomery says. "Consolidation can save an enterprise 10 to 40% in energy, as 15 to 30% of the systems running in a data center consume power but are not computing."

Paul Goodison, CEO of Cormant (www.cormant.com), says DCIM solutions enable synchronization of various aspects of data center, IT, and facilities management into one trusted solution, which makes adopting new processes straightforward and helps reduce cost, rework, and tension within and between facilities and IT staff.

DCIM can also detail where infrastructure physically exists and where spare capacity exists without any second-guessing of multiple point-in-time spreadsheets and visual inspections, he says. Other benefits include quick completion of company-required changes; the ability to receive complete capacity data for power, rack units, cooling, chassis, and network capacity consolidated into one system; less downtime; and precise views of capacity, trend, and environmental data for everyone to access.

What To Expect

Goodison says one misconception concerning DCIM is that users might be tempted to think that if they purchase a DCIM solution all their data center problems will go away. "None of these solutions can work magic. All of them require hard work to get right," he says. "A lot of DCIM solution documentation glosses over the importance of process change," he says. No DCIM tool will work unless you think about the processes to make it work and ensure those processes are in place and enforced, he says.

Users can expect a DCIM solution to help document, track, monitor, and manage the physical layer of their IT infrastructure and tie in key logical, power, temperature, and environmental data for historical, reactionary, and planning activities, Goodison says. Implementation will require significant work to ensure the data that's captured is trusted and usable and that it's audited and correct, he says.

But be aware you'll need to examine work processes and likely change them to ensure they're correctly using the solution. "Change management will become much easier with visibility of data to those who need it for planning and management," Goodison says. "IT departments should keep in mind that a solution is only as good as it is used, so a process of inclusion within all network and infrastructure change is integral in keeping the data contained therein trusted."

Montgomery says most DCIM solutions are based on a per-cabinet pricing model for the perpetual license of the software. Other costs include services required to implement the solution; annual software maintenance (updates, upgrades, and support); training; and equipment required to use the solution.

"Be sure an ROI accompanies the cost proposal with validation from your end," Montgomery says. Goodison says companies should expect prices to vary widely among solutions. "SMEs should really seek to properly define what it is they want out of the DCIM solution first so that each solution they seek pricing for can truly provide apples to apples costs," he says.

Before You Dive In

Because DCIM is a hot topic, Goodison says, numerous vendors have surfaced with DCIM-branded solutions. "Regardless of how you define DCIM, I think it's fair to say they can't all be DCIM solutions, but we can assume they probably do manage/document some aspect of the data center, hence their branding," he says. "However, the question is whether or not a particular solution will do what you want/need it to." Further, he says, "DCIM" means different things to different people, including IT and facilities departments. "Properly define your needs so that you understand which solution best fits those needs when you evaluate the competitive landscape," he says.

Possible obstacles to acquiring a solution can include the company's finance department vetoing the purchase; departments having different solutions in mind, leading to paralysis; vendors not providing a solution priced for the small to midsized enterprise; lack of manpower needed to learn, implement, and oversee the solution; and poor or slow solution support.

Before purchasing a solution, Goodison advises delegating an overall project manager and obtaining a documented and agreed-upon post-implementation process from the vendor. "This will drive the implementation," he says. "Mandate adoption of the solution into the processes surrounding the procurement, documentation, storage, deployment, tracking, and monitoring of all IT infrastructure and task the project manager with policing and then reporting to management." He also advises using third-party resources for deployment. "Don't lose control, but it's highly likely that the SME is too busy running the day-to-day to deploy the solution," he says. P

Key Points

- DCIM is a quickly growing market with solutions from more vendors routinely surfacing.
- DCIM replaces traditional spreadsheets, paper records, and other tools used for tracking assets, instead providing real-time, holistic views of IT assets and physical infrastructure.
- DCIM lets enterprises capture data they can use to develop what-if scenarios aimed at improving energy consumption and overall efficiency.

Action Plan

Paul Goodison, CEO of Cormant (www.cormant.com), outlines the following steps to take when purchasing and implementing a DCIM solution:

- Review the market to discover what solutions are capable of
- Define your needs based on data center, IT, and facilities department requests
- Use your market review to temper expectations
- Create a reasonable "must have" list of needs with future "nice to have" functions
- Define the post-implementation process and how you'll use the solution, and convey this to vendors
- Establish a budget based on your research
- Factor implementation costs (which can be high) into the overall cost
- Ask vendors if they have customers similar in size to you, and if not, why
- Request early quotes and live demos of products you're evaluating
- Consider a proof-of-concept trial using a subset of infrastructure data to compare solutions

Get Started

When seeking a DCIM solution, Bill Montgomery, founder of Premier Solutions (www.premiersolutionsco.com), says a good starting point is eying solutions that your current power vendors provide, as they're already trusted to power your IT assets. During the pre-installation planning phase, it's essential to involve the DCIM vendor in developing a SOW (statement of work), he says. "Be sure to budget for the onsite services," he says, as "this kick starts the solution from Day 1."

Top Tips

Paul Goodison, CEO of Cormant (www.cormant.com), offers the following tips:

- ✔ Know that a foolproof solution for discovery and data import into any DCIM solution doesn't exist, but solutions with mobile components enable auditing against imported/discovered records and quicker and (usually) easier build-out of accurate data
- ✔ Solutions with network-query options for communicating with networked infrastructure provide a level of verification against imported data but audited records are still required
- ✔ Buying a "does everything" solution can be a mistake; some small to midsized enterprises only need "just enough" management

HOW TO

Implement RFID In The Data Center

Get The Best Benefits With The Right Implementation

RFID TAGS HAVE EMERGED as very useful devices for tracking and monitoring data center equipment. Admins can use the devices to track equipment location, maintenance status, and other information. RFID tags can also help data centers become more compliant with regulations and add an extra layer of security by helping to prevent theft.

"Using RFID technology benefits the data center operations team with an automation solution utilizing leading-edge technology, which should bring improved process, compliance, maintenance, utilization management, and financial [efficiencies]," says Shawn J. Haidar, a mobility consultant within the technical consultant service delivery business unit at HP (www.hp.com). "[It can also help] to eliminate manual data entry and processes required to validate captured data validity against core inventory repository data and provide the ability to quickly scan devices on location, enabling ongoing inventory data collection for a data center vs. requiring dedicated inventory collection processes and resources."

However, using RFID tags to track and monitor data center equipment first requires careful planning and execution. Here is some advice on how to implement the devices in order to best take advantage of this useful and affordable technology.

Take Stock Of Your Needs

RFID must be implemented in such a way that it meets the specific needs of a data center; a one-size-fits-all configuration does not work. "RFID has been undersold and mis-sold by vendors who have taken the view that it is all or nothing. RFID has a great part to play in a data center, but needs to be done correctly, at the right price point," says Clive Longbottom, service director for business processes facilitation at Quocirca.

In order to get the results you want, HP's Haidar says, it's necessary to determine what RFID devices work best in the data center's physical environment, the material on which the RFID tags will be placed, the minimum and maximum read distances for the tags, and security requirements.

Passive Or Active RFID

A key decision to make prior to deployment is to decide whether passive or active RFID devices are required for the data center. For example, active RFID tags transmit information, which facilitates always-on monitoring, Quocirca's Longbottom says. "[However], active RFID means that there is a large amount of radio frequency going on in the data center, and we have found that few data center managers are keen on this," he says. Passive tags only transfer data when they are read and require an active electronic reader, usually within line of sight of the tags, Longbottom says. "Most passive tags work best in a near field scenario—the reader has to be very close to the tag before it 'sees' it," he says.

Active tags will also require power to remain always-on. "You [may be] looking at lots of extra cable runs and energy losses with [active tags]," Longbottom says. "Passive tags will either have no energy source or will be able to run off a battery for many years, but will need readers that are portable and must be carried by the data center personnel."

Maintenance will differ, depending on whether the tag is an active or passive RFID device, says Dale Parvey, product manager for RF Code (www.rfcode.com). For active RFID devices, battery replacement represents the main maintenance task, he says. "Our battery standard tags sleep for 9.9 seconds, then wake up and it says 'Here I am, and here is my status,' then it goes back to sleep." The battery for those active devices only needs to be replaced every seven years, Parvey says, while a device that "wakes up" every 15 seconds has a much longer battery life.

According to Parvey, passive RFID maintenance involves line-of-sight spot checks using a reader to see if the device is functioning like it should. The tag might become unreadable if it gets damaged, which the reader detects. But other than that, Parvey says that passive devices are very low-maintenance because they do not have batteries to replace or maintain.

Most data centers will combine the use of active and passive RFID devices for a hybrid solution, Quocirca's Longbottom says, so major assets such as mainframes, full racks, and UPS units could be tagged with active tags, and sub-assets such as individual blades, switches, and monitors may be tagged with passive tags.

Another variable to consider is the value of the intellectual property associated with the equipment, Longbottom says. "Any storage system may be viewed as being of high value to the business or at least a high risk if stolen, and so may need to be actively tagged," he says. And technology requirements, of course, will differ depending on the data center. For example, some data centers may opt for more active devices, which are also more cutting-edge and expensive than passive devices are.

The Cost Factor

The cost of implementing RFID can vary tremendously, while the price between active and passive RFID devices are especially significant. Implementation outlays will also vary beyond what the different RFID tags and readers will cost and will depend on a number of other factors.

Get The Right Tools

A robust software solution will need to be selected and then implemented to manage the devices after determining which equipment needs to be tagged and the best system to do that, Quocirca's Longbottom says.

"The majority of data centers are very poor on asset management at the moment, so some form of asset discovery software [used with RFID devices] will be required to actually find out what is present," he says. "This should be a live, dynamic system, so that as new assets are added and old ones are retired, the system automatically updates."

Implementing the RFID tags and installing the software will usually involve hiring third-party system integrators, which are often hard to find. In fact, one of the roadblocks to widespread adoption of RFID IT asset tracking solutions is a lack of experienced systems integrators.

Key Points

- Equipment, tracking, and other needs specific to your data center will vary compared to other enterprises, so careful planning is required to assess the best solution before implementation.
- Determine whether equipment will use active or passive RFID tags, which vary in function and price.
- RFID implementation requires software solutions to manage the devices and to serve as the tracking and monitoring interface.

Top Tips

- ✔ Enterprises will need to outline best-practice policies that RFID vendors will need to follow.
- ✔ Careful attention needs to be paid to make sure that RFID tags are accurately applied to the assets, says Clive Longbottom, service director for business processes facilitation at Quocirca. "It is a waste of time if the RFID tag is associated with the wrong asset, as you'll not be tracking the right stuff."
- ✔ As a security consideration, RFID alarm settings need to be defined, Longbottom says. "Is the movement of a switch from one rack to another something where a full alarm needs to be raised or is an email [alert] enough, saying that it has been noted and the asset database has been updated accordingly?"
- ✔ Buying RFID tags and readers in bulk can offer many benefits, says Shawn J. Haidar, a mobility consultant within the technical consultant service delivery unit at HP (www.hp.com). "I am sure you would appreciate the heavier discount and shortened delivery timescales that could then be offered [by buying in bulk], because the vendor was better able to plan his upcoming production runs more efficiently," he says.

HOW TO

Lower Your Data Center Costs

Steps You Can Take From Small Tweaks To Large-Scale Shifts

Truly effective cost-cutting measures are often rare, and they can be even more elusive. Companies are always looking for ways to lower costs, but in most cases, experts say, they are looking in the wrong places.

"Data centers have spent years focusing on being more efficient, but that focus was always on people and process," says David Cappuccio, vice president and chief of research for data centers at Gartner. "Today, the focus should be on the physical resources in the data center and how to get more out of what you already have."

Sometimes all it takes is a simple change of direction to move away from frustrating and ultimately unfruitful cost-cutting approaches to ones that will actually make a difference. We'll show you how beefing up your data center's efficiency and extending the life of your equipment or upgrading it can help you cut costs and improve performance.

Improve Cooling Efficiency & Energy Consumption

When it comes to cutting data center costs, it's a good idea to start with energy efficiency. Every piece of equipment in your data center is pulling electricity to some degree, and most pieces of equipment also need sufficient cooling, whether via fan, liquid, or open-air cooling. But if your sole focus in terms of cooling is on getting the operating temperature as low as possible, you may be spending more money than necessary.

"Most data centers are still operating in the 70 to 72 degree range with the assumption that the equipment needs to run in a cool environment," Cappuccio says. "ASHRAE has changed their recommended ambient temperature ratings for data centers to allow variances upwards of 80 degrees. Raising the ambient air to 78 degrees in the data center will have no effect on equipment MTBF ratings but can have a huge effect on operating costs."

Cappuccio also points out that for each degree added to the overall temperature of the data center, companies can expect to see between 2% and 3% in energy consumption savings, which will start to add up over months and years of operation.

Consolidate To A Reasonable Degree

Server consolidation is a popular topic right now, but in some cases it's only focused on saving space and cutting down on physical infrastructure. But consolidation in general also is a solid tactic for lowering internal operating costs.

"Server consolidation, which typically applies to virtualization, is a good way to save money because four virtual machines running on a server will not consume much more power than that same server running a single workload," says Rich Fichera, vice president and principal analyst at Forrester. "You can save a lot of power by reducing the physical server count. A four-to-one consolidation model will reduce your power consumption to a quarter of the cost."

If certain pieces of equipment in your data center are at the end of their lives, virtualization and consolidation can also make future equipment purchases more manageable. By using virtual and cloud environments to increase the amount of available resources on your servers, you can boost the overall performance of your data center and workforce while also lowering your physical infrastructure budget.

Extend The Life Of Equipment Or Upgrade

One of the easiest ways to lower data center costs is to postpone the need for infrastructure overhauls, because the cost of purchasing new equipment can start to skyrocket depending on the needs of the company. If you can squeeze a little extra use out of your equipment without sacrificing performance, it can help you put yourself in a better position to purchase new products in the future. But it's important not to go too far past the end-life of servers, storage, and other equipment because it could cost you in power consumption and energy efficiency.

"Extending the useful life of servers is an obvious cost-cutting activity, the logic being that if it's not broken, don't replace it," Cappuccio says. "But extending the useful life often means continuing to run energy inefficient equipment for a longer lifespan, thus increasing operating costs. Oftentimes using technology refresh can have a triple benefit of providing greater performance in a smaller footprint and with significantly reduced energy costs."

Cappuccio adds that many new servers have higher virtualization levels, so you can increase the often low utilization levels of about 22% up to as high as 60%, which will provide better overall efficiency. Instead of swapping out equipment all at once, you can upgrade your equipment over the course of months or years, which will also help with the learning curve of figuring out new servers. In some cases, the only real way to cut costs and lower your long-term budget is to invest in new solutions that are more efficient than your existing equipment. P

Key Points

- Increase your data center's cooling efficiency and power consumption to cut down on energy-related costs.
- Try to consolidate servers, but only when it's feasible, and take advantage of virtualization.
- Know when it's time to upgrade but, when possible, extend the life of your existing equipment as long as it doesn't negatively affect performance.

Action Plan

- Look at every piece of equipment in your data center and determine whether it is efficient from a cooling and power consumption point of view. Some small adjustments can lead to big savings in the long run.
- Reduce the amount of equipment in your data center, if possible, lowering the energy needed to keep it up and running. Consolidation will also help decrease the need for larger equipment purchases in the future.
- Once your servers are in order, consider using tiered storage, which utilizes more SATA hard drives and reduces power consumption.
- Try to look at cost cutting as cost avoidance or cost management. Put big plans in place, rather than quick fixes, which will lower your operating budget in the long term.

Get Started

To see near-term results in reducing your data center costs, Rich Fichera, vice president and principal analyst at Forrester, recommends companies aim for the low-hanging fruit and start with simpler cost-cutting measures before moving on to larger projects.

"Making changes to the data center and the physical infrastructure, such as virtualization and consolidation, is something they can do that's unrelated to cooling and performance," he says. "Those are more complicated and involve multiple applications and multiple stakeholders. That's more of a cross-IT, cross-company effort. But getting your infrastructure to run more efficiently via better cooling is pretty much the first step."

Top Tips

The following tips were provided by Rich Fichera, vice president and principal analyst at Forrester:

- ✔ Consider investing in better management software that will give you a baseline of how your data center is performing and where improvements can be made to save money.
- ✔ Use variable-speed fans on your cooling equipment. Older fans are either full on or full off, but newer ones are variable speed so you can operate them at just the right output.
- ✔ Make sure you have hot aisle and cold aisle containment. Put blanking panels on the racks, end panels, and end baffles to prevent air from mixing around the edges. And if possible, reorient your returns so they suck air right up out of the hot aisle.

Tips For Buying Used & Refurbished Equipment

Define Your Goals For Getting Rid Of Your Used Equipment

According to Morris Scott, president of DMD Systems Recovery (877/777-0651; www.dmdsystems.com), "You'll need to decide up front what you're looking to do as far as a primary objective. Are you concerned about protecting the company from information loss [or] from environmental liability, and are you looking for a one-time disposal or an ongoing process?"

For example, a company where data security is mission-critical will want to go with a service that keeps detailed records of wiping, reset, degaussing, and destruction of equipment. Many hardware resellers and disposal services will provide a complete report down to the final destination of the equipment, whether it be a certificate of destruction or information about recycling activity, such as if it was dismantled into parts for other products. Some hardware disposal companies are even audited to ensure compliance. If you want to continually recycle or resell surplus hardware, you may want to look for a service that will set up an ongoing contract with you.

Pay Attention To Part Numbers

Savvy buyers of used and refurbished equipment check part numbers ahead of time, because you don't want to receive equipment that's close to—but not exactly—what you thought you were getting.

"For example, aftermarket memory is often less expensive than memory that has an HP sticker on it," Scott says. "This may not mean that the aftermarket memory is inferior, it may just mean that the customer didn't get what they paid for." Checking that components carry only original part numbers is a good way to know exactly what you're buying.

Don't Recycle That Packaging

Before you assume it's safe to toss the original packing material, find out if you'll need to hold onto it until your warranty period expires. Some suppliers won't accept returns unless they're in the original packaging, while others are less picky. Customers should ask about the requirements when making their purchase so that a return isn't refused because someone inadvertently pitched the original box.

Find A Reputable Reseller That Offers Its Own Warranty Policies

"There are different kinds of scenarios, but let's say a company wanted to buy 50 PCs," Scott says. "Generally speaking there would be, say, a 90-day warranty, but [the reseller] should offer an additional warranty of one, two, or three years that would be akin to one from the manufacturer." In addition, resellers may offer additional benefits by providing 52 PCs for the price of 50, so that if one PC goes down, you could ship it back for a replacement and meanwhile make use of the spare.

But also understand what isn't covered under warranty. Warranty and exchange policies often don't cover issues such as damage caused by the end user or a force majeure. You'll want to have some sort of disaster recovery service in place, which could include getting items on quick ship from your reseller.

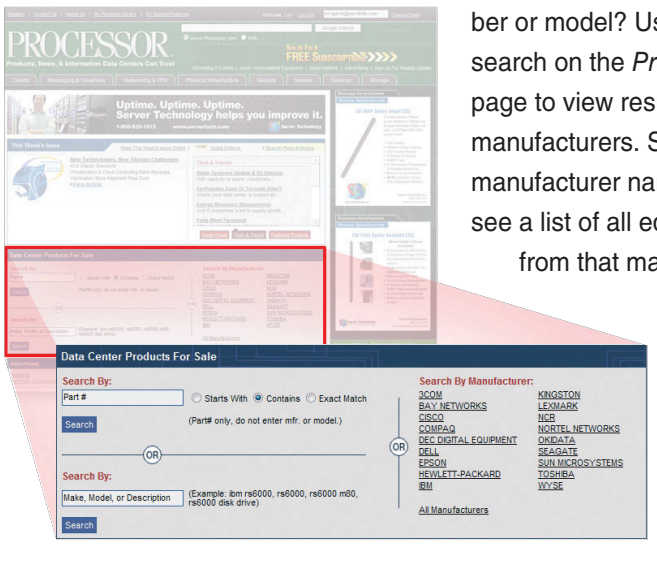
Get Past The Fear Of Buying Used Tape Media

Tape manufacturers work hard to convince their customers not to buy used tape, but used tape vendors say that those warnings are nothing more than fear mongering designed to increase manufacturers' sales. In fact, says Norm Hutton, director of sales for DTC Computer Supplies (800/700-7683; www.dtc1.com), "The return rate on our certified media is no higher than it is on new." Most tapes are designed to withstand thousands of mounts in a tape drive. However, many tapes are written to just once and then sit on a shelf for years before companies are ready to dispose of them. These cartridges have a lot of useful life left.

Use Processor.com To Find Used & Refurbished Equipment

Once you've made the decision to purchase used or refurbished equipment, finding the equipment you need is easy with *Processor*'s online Data Center Products For Sale Database.

From *Processor*'s home page (www.processor.com), you can search for a specific part number, make, model, or description. Enter the information in the appropriate box and click Search. You'll see a list of available equipment. If you don't see the particular piece you're looking for, scroll to the bottom of the search results page to conduct a more detailed search. There, you can search by part number, model, price, location, and more.



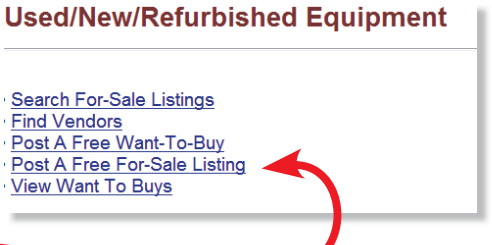
Don't know the specific part number or model? Use the drill-down search on the *Processor* home page to view results from specific manufacturers. Simply click the manufacturer name, and you'll see a list of all equipment listings from that manufacturer.

Do you have excess equipment?

Post it for sale on Processor.com!

On the Processor.com home page, click Used/Refurbished Equipment.

Choose Post A Free For-Sale Listing.



Follow the on-screen directions from there!

PROCESSOR

Upcoming **IT** Events

Network With Your Peers At These IT Training & Association Meetings Across The United States

JULY

SpecTECHular 2012
July 17
New Horizons Fort Worth
4100 International Plaza
Suite 200
Fort Worth, Texas
register.nhcomputerlearning.com
/Events/

SpecTECHular 2012
July 24
New Horizons San Antonio
2727 NW Loop 410
Suite 103
San Antonio, Texas
register.nhcomputerlearning.com
/Events/

SQL Coding Best Practices and Shortcuts
July 24, 9 to 11 a.m.
New Horizons South Dakota
4610 Technopolis Drive
Suite 100
Sioux Falls, S.D.
register.nhcomputerlearning.com
/Events/

ISSA Baltimore
July 25
Concurrent Technologies Corp.
8530 Corridor Road
Savage, Md.
www.issa-balt.org

SPTechCon
July 25
Boston, Mass.
www.sptechcon.com

AUGUST

AITP Washington, D.C.
Aug. 9
Alfio's La Trattorio Restaurant
4515 Willard Ave.
Chevy Chase, Md.
www.aitpdc.org

SpecTECHular 2012
Aug. 9
New Horizons Kansas City
9611 E. Metcalf Ave.
Overland Park, Kansas
register.nhcomputerlearning.com
/Events/

AITP Akron-Region 18 IT CON
Aug. 11, 8 a.m. to 5 p.m.
Holiday Inn-Cleveland South
6001 Rockside Road
Independence, Ohio
www.aitp-region18.org

AITP Pittsburgh
Aug. 13, 5 to 8 p.m.
Silvioni's Restaurant
2125 Babcock Blvd.
Pittsburgh, Pa.
www.aitp-pgh.org

SpecTECHular 2012
Aug. 21
New Horizons Oklahoma City
3010 NW 149th St.
Oklahoma City, Okla.
register.nhcomputerlearning.com
/Events/

ISSA Baltimore
Aug. 22
Concurrent Technologies Corp.
8530 Corridor Road
Savage, Md.
www.issa-balt.org

SpecTECHular 2012
Aug. 28
New Horizons South Dakota
4610 Technopolis Drive, Suite 100
Sioux Falls, S.D.
register.nhcomputerlearning.com
/Events/

SEPTEMBER

AITP Pittsburgh
Sept. 10, 5 to 8 p.m.
Silvioni's Restaurant
2125 Babcock Blvd.
Pittsburgh, Pa.
www.aitp-pgh.org

AITP Washington, D.C.
Sept. 13
Alfio's La Trattorio Restaurant
4515 Willard Ave.
Chevy Chase, Md.
www.aitpdc.org

ISSA Baltimore Information Security Summit
Sept. 13, 7:30 a.m. to 4:30 p.m.
NIST
100 Bureau Drive
Gaithersburg, Md.
infosec-summit.issa-balt.org/index.html

ISSA Baltimore
Sept. 19
Concurrent Technologies Corp.
8530 Corridor Road, Savage, Md.
www.issa-balt.org

AITP Cornhusker
Sept. 20, 5:30 p.m.
Lincoln, Neb.
www.aitp.org/members/group
.asp?id=75767

AITP Akron
Sept. 25
Akron, Ohio
www.akron-aitp.org

Data Center World
Sept. 30-Oct. 3
Gaylord Opryland
Nashville, Tenn.
www.afcom.com

OCTOBER

Interop New York
Oct. 1-5
Javits Convention Center
New York, N.Y.
www.interop.com

AITP Pittsburgh
Oct. 8, 5 to 8 p.m.
Silvioni's Restaurant
2125 Babcock Blvd.
Pittsburgh, Pa.
www.aitp-pgh.org

AITP National Annual Meeting of the Members and Region 5 Fall Technology Conference
Oct. 11
Radisson Hotel and
Convention Center
2040 Airport Drive
Green Bay, Wis.
www.aitp.org/region5

AITP Washington, D.C.
Oct. 11
Alfio's La Trattorio Restaurant
4515 Willard Ave.
Chevy Chase, Md.
www.aitpdc.org

AITP Cornhusker
Oct. 18, 5:30 p.m.
Lincoln, Neb.
www.aitp.org/members/group
.asp?id=75767

ISSA Baltimore
Oct. 24
Concurrent Technologies Corp.
8530 Corridor Road, Savage, Md.
www.issa-balt.org

WPDevCon
Oct. 24
San Francisco, Calif.
www.wpdevcon.net

AITP Akron
Oct. 30
Akron, Ohio
www.akron-aitp.org

NOVEMBER

AITP Washington, D.C.
Nov. 8
Alfio's La Trattorio Restaurant
4515 Willard Ave.
Chevy Chase, Md.
www.aitpdc.org

AITP Pittsburgh
Nov. 12, 5 to 8 p.m.
Silvioni's Restaurant
2125 Babcock Blvd.
Pittsburgh, Pa.
www.aitp-pgh.org

AITP Cornhusker
Nov. 15, 5:30 p.m.
Lincoln, Neb.
www.aitp.org/members/group
.asp?id=75767

ISSA Baltimore
Nov. 28
Concurrent Technologies Corp.
8530 Corridor Road
Savage, Md.
www.issa-balt.org

DECEMBER

Android DevCon IV
Dec. 7
San Francisco, Calif.
www.andevcon.com

AITP Pittsburgh
Dec. 10, 5 to 8 p.m.
Silvioni's Restaurant
2125 Babcock Blvd.
Pittsburgh, Pa.
www.aitp-pgh.org

AITP Washington, D.C.
Dec. 13
Alfio's La Trattorio Restaurant
4515 Willard Ave.
Chevy Chase, Md.
www.aitpdc.org

ISSA Baltimore
Dec. 19
Concurrent Technologies Corp.
8530 Corridor Road
Savage, Md.
www.issa-balt.org

AITP Cornhusker
Dec. 20, 5:30 p.m.
Lincoln, Neb.
www.aitp.org/members/group
.asp?id=75767

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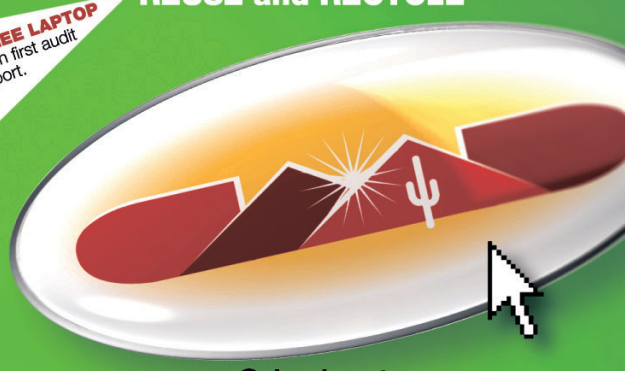

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Processor Solutions Directory

Here are brief snapshots of several companies offering products designed for the data center and IT industry. Listings are sorted by category, making it easy for you to find and compare companies offering the products and services you need.

You can find more detailed information on these companies and the products they offer inside this issue.

To list your company and products, call (800) 247-4880.

Physical Infrastructure

Total Cable Solutions

Total Cable Solutions (TCS) provides a wide range of products from copper keystone jacks to custom bundled fiber cables. All products are manufactured with TCS's highest quality, in factories that are ISO-9001 and TUV Certified. All of our cable lines meet or exceed EIA/TIA RoHs standards.

Products Sold:

- Fiber patch cords
- Pre-terminated multi-fiber trunk cables
- CAT5e and CAT6 patch cables
- Fiber and copper patch panels
- Keystone jacks, and other accessories

(888) 235-2097 | www.TotalCableSolutions.com

Physical Infrastructure

BayTech

BayTech was founded in 1976 and, since the 1990s, has developed unique products for remote power management. The company uses printed circuit board instead of wires for a better, more resilient connection between the data center equipment and the receptacle. BayTech provides an extensive Web site with brochure downloads, warranty information, and reseller support and also offers evaluation units for data centers.

Products Sold:

- Power control, distribution, management, and metering
- Power transfer switches
- Console management and remote site management

(800) 523-2702 | www.baytech.net

Physical Infrastructure

LINDY

CONNECTION PERFECTION

LINDY USA specializes in cables, adapters, electronics and accessories for computer, networking and audio video applications. Since 1932 Lindy has supplied high quality interconnects to customers in commercial, telecom and residential markets. What sets us apart is our complete dedication to innovation, performance and reliability. Our cabling products are truly outstanding.

Products Sold:

• Networking Products • Audio / Video • KVM • Sharing, Converting, Extending • USB and FireWire • Input Devices • Add-On Cards • Hardware and Security • Power • Cabless • Adapters and much more!

(888)-865-4639 | www.lindy-usa.com/

Physical Infrastructure

AMERICOOL

AmeriCool, Inc. is the official sales, marketing, and distribution company for Weltem Air Conditioning products in North America. Our AmeriCool portable air conditioners are built to the highest standards in the industry and offer unbeatable performance, reliability and value. With products ranging from 1 to 5 tons we offer air conditioning solutions to companies small and large. Due to the wide operating range of our product, 24/7 cooling capability and rugged design, our product is a great solution for mission critical needs and harsh industrial applications.

Products Sold:

- Portable Air Conditioning Units

(800) 680-0725 I www.americoolinc.com

Physical Infrastructure

STACO ENERGY PRODUCTS CO.

Staco Energy was founded in 1937 and is one of the longest-lasting innovators of power products and services in the world. Our recent innovations have created the foundation for entry into the SMB data center marketplace through pioneered design and expertise. We are committed to providing you with the best tailored power solutions for your needs.

Products Sold:

A full line of UPS products, including our new FirstLine P 65 – 250kVA UPS, FirstLine PL 10 – 100kVA UPS, FirstLine BMS, and related accessories and services.

(866) 261-1191 I www.stacoenergy.com

Physical Infrastructure

AVTECH

AVTECH Software, founded in 1988, is focused on making the monitoring and management of systems, servers, networks, and data center environments easier. AVTECH provides powerful, easy-to-use software and hardware that saves organizations time and money while improving operational efficiency and preparedness. AVTECH products use advanced alerting technologies to communicate critical status information and can perform automatic corrective actions.

Products Sold:

A full range of products that monitor the IT and facilities environment, including temperature, humidity, power, flood, room entry, and UPS

(888) 220-6700 I www.AVTECH.com

Physical Infrastructure

MOVINCOOL

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The MovinCool division of DENSO Sales California has pioneered the use of portable air conditioning solutions for a variety of North and South American markets since 1982. MovinCool works with a national network of distributors and suppliers to provide product sales, installation, and rental.

Products Sold:

- Office Pro Portable Air Conditioner Series for indoor environments such as server and telecom rooms
- Classic & Classic Plus Portable Air Conditioner Series for moisture removal, outdoor and industrial spot-cooling
- CM Series ceiling-mounted A/C for cooling server rooms, telecom closets, or anywhere space is limited

(800) 264-9573 I www.movincool.com

Physical Infrastructure

HM CRAGG

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As an integrator and master distributor providing quality power solutions, HM Cragg has built a reputation as the company that delivers innovation to aid and satisfy its customers. HM Cragg was founded in 1968 and is 100% employee-owned, focusing on quality people and exceptional products.

Products Sold:

- AC and DC power solutions (UPSes, power distribution)
- Control and monitoring (environmental and power)
- Connectors and cables (cord sets, ePDU cables)
- Cooling (air flow management, portable cooling)
- Racks and enclosures (standard racks, battery racks)
- Safety equipment (spill containment, safety signs)

(800) 672-7244 I www.hmcragg.com

Physical Infrastructure

CABLESYS

Cablesys, headquartered in La Mirada, California, is a leading manufacturer of high performance fiber cables, fiber jumpers, CAT 6 patch cords, CAT 5e patch cords, CAT 6 cables and connectivity solutions. We have millions in stock that can be shipped same day and best of all, 20% less than name brands.

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- Networking Patch Cords
- Telephone Line Cords
- Audio and Video Cables
- Mini Coax Cables

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- Pre-bundled Cable Assemblies
- Trunk Cable Assemblies
- Multi-strand Cable Assemblies
- Pre-labeled and Pre-kitting
- OEM Cable Assemblies

(800) 555-7176 I Cablesys.com/pro

Physical Infrastructure

upsite technologies®

Upsite, the “Pioneering Company in Airflow Management Solutions” was founded by Ken Brill, who established the Uptime Institute, a think tank dedicated to identifying efficiencies within data centers. Upsite’s LOK Family of energy-efficient solutions are engineered to optimize the data center. This sets Upsite apart. Upsite solutions empower data center managers to leverage cost savings for data center optimization (i.e. releasing stranded capacity, increasing server density, improving system reliability & reducing energy consumption).

Products Sold:

- KoldLok
- HotLok
- AisleLok
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(505) 798-0200 or (888) 982-7800 I www.upsite.com

Physical Infrastructure

SENSAPHONE®

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Sensaphone has been designing and manufacturing remote monitoring systems for more than 25 years and has more than 300,000 of its products in use. Sensaphone’s product lineup offers a full range of devices with a broad number of features and applications designed to monitor your entire infrastructure and alert you to changes. All product engineering functions, including hardware and software design and circuit board layout and assembly, are performed at the Sensaphone facility in Aston, Penn.

Products Sold:

Remote monitoring solutions that provide email and voice alarm notification for problems related to temperature, humidity, water detection, power failure, and more.

(877) 373-2700 I www.sensaphone.com

Physical Infrastructure

Crenlo | emcor ENCLOSURES

Crenlo offers a broad range of standard enclosure and console product lines under their Emcor brand, each of which can be configured or modified by Crenlo to meet the specific requirements of most customers. Crenlo also offers completely custom enclosure solutions to meet the specific requirements of any application. Crenlo has more than 60 years of experience providing enclosure solutions to meet the needs of their diverse customer base.

Products Sold:

- Rackmount and wallmount enclosures
- Transit cases
- Rackmount accessories
- Monitoring and command and control consoles
- Custom enclosures ranging from kiosks to inverter enclosures

(507) 287-3535 I www.crenlo.com/enclosures

Physical Infrastructure

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Rackmount Solutions’ mission is to listen to the IT engineer’s specific needs and deliver superb-quality, high-performance products through continuous product innovation and operational excellence. We pride ourselves in providing quality customer service, products that fit your IT requirements, and solid value for your money.

Products Sold:

- Wallmount and server racks and cabinets, including sound proof, air conditioned, and large cable bundle
- Desktop/tabletop portable racks
- Shockmount shipping cases
- Bulk cable

(866) 207-6631 I www.rackmountsolutions.net

Physical Infrastructure

PDUs direct

PDUsDirect.com is a Master Distributor of select Server Technology PDUs for server and networked environments. PDUs Direct’s basic, metered, and switched Rack PDUs provide local and remote power management, power monitoring, and environmental monitoring. We pride ourselves in offering industrial-grade quality products at the lowest prices, with the fastest shipping (most orders shipped within 24 hours) and simplest purchase process. We are the Power Behind the Business.

Products Sold:

A complete line of metered and basic PDUs, and 20A switched PDUs.

(888) 751-7387 I pdusdirect.com

Physical Infrastructure

Based in New York City, Hergo Ergonomic Support Systems is an independent designer and manufacturer of enclosure cabinet solutions, technical computer furniture, and modular racking systems. The company's products are designed to promote organization in the workspace and to increase the productivity of computers, peripherals, and communications equipment. Hergo is known for its high-quality products and superior customer service.

Products Sold:

- Racks
- Enclosures/cabinets
- Motorized workstations
- Flat-panel arms
- Computer desks
- Cable management
- Power management

(888) 222-7270 | www.hergo.com

Physical Infrastructure

Since 1979, Simplex Isolation Systems has been setting new design standards in modular expandable cleanroom components, isolation curtains, hardware, and new product development. Fontana, Calif.,-based Simplex's unique strip doors and mounting systems are designed for quick installation. Simplex parts and materials perform with optimum efficiency, last longer, and save you money. And with Simplex, you are always backed by industry expertise, product knowledge, and the best warranties in the market.

Products Sold:

- Cleanrooms
- Enclosures
- Strip doors
- Curtains

(877) 746-7540 I www.simplexisolationsystems.com

Physical Infrastructure

CTI was founded by Methode Electronics in 1997 and during the past 13 years has provided data centers with innovative solutions. CTI has recently become the cornerstone of Methode's Data Solutions Group, joining forces with the Methode dataMate and OPTOKON divisions in supporting the data center and communication industries. In addition, our highly qualified professional services team can engineer and install the best solution to fit your needs.

Products Sold:

Fiber and copper cabling solutions; Smart DACs; cabinets, patch panels; asset tracking; biometric access control; optical test equipment; harsh environment network equipment

(888) 446-9175 I www.methode.com/data

Networking & VPN

Metric Systems Corporation® designs and manufactures broadband wireless networking equipment, and end-to-end solutions for government and industry. We've been in the business of manufacturing and integrating reliable industrial-grade wireless networking systems for over 25 years. Our networks are deployed around the world protecting and supporting people and machines. Our specialty is working with your unique requirements and existing infrastructure to provide a networking solution that fits your requirements, schedule, and budget.

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(800) 549-7421 I www.metricsystems.com

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Founded in 1991, Aberdeen is a leading manufacturer of servers and storage options for IT departments. Aberdeen products can be found in many of today's high-tech corporations, as well as government agencies, hospitals, and universities. Aberdeen prides itself on unmatched customer service, open and honest communications, long-term commitments to working relationships, and personal and professional integrity.

Products Sold:

- Components/parts
- Servers (barebones, custom, rackmount, and storage)
- Software
- Storage (DAS, iSCSI SAN, JBOD, NAS, SAN)

(800) 500-9526 I www.aberdeeninc.com

Storage

WeBuyUsedTape has been in the business of purchasing new, used, excess, and surplus magnetic media for more than 35 years. Our regulation-approved, secure data eradication processes and environmentally friendly disposal programs give organizations a safe and economic incentive for recycling used media. Customer service is one of our top priorities, backed by helpful, knowledgeable, and efficient team members. Obtain a no-obligation, confidential quote on your tape media today. Onsite data destruction available.

Services Offered:

Tape media buyback, secure data eradication, media disposal, and recycling

(800) 821-1782 I www.WeBuyUsedTape.net

Security

ProQSys, of Lebanon, N.H., is a privately owned developer of flow analysis software for network security, monitoring, and forensics. Named for the Process Query System correlation technology at the heart of its products, ProQSys' goal is to make networks more understandable and transparent to the personnel tasked with running them. Its customer base includes government, industry, military, education, and business entities, including MSPs and ISPs.

Products Sold:

FlowTraq software, which helps you get a better understanding of your network's structure and traffic, providing vital information when something goes wrong.

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Servers

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